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PRECLINICAL AND CLINICAL STUDY ON

KUMBAVAATHAM

(DISSERTATION SUBJECT)

For the partial fulfillment of the

Requirements to the Degree of

DOCTOR OF MEDICINE (SIDDHA)

BRANCH I– MARUTHUVAM

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CONTENTS

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INTRODUCTION

Health of an individual is assessed by the way a person who leads his life. This means not only the physical activities of a person but also the mental makeup. In recent times due to life style modifications, lot of dreadful changes have started occurring in an individual's physical and mental health which can cause hindrance to the progress of a person's day to day activities.

The Siddha system can provide longevity, even immortality to the society through yoga and medicines prepared from meticulously processed minerals, herbal extracts and their rejuvenating compositions, etc.

Siddhar Yugi Munivar in his Yugivaithiya Chinthamani 800 described about 80 types of Vaatha diseases. KumbaVaatham is one among them. As per his poem symptoms of kumba vaatham are pain in the shoulders, arms, burning sensation in the eyes, benumbed feeling in the neck and giddiness, Dizziness. These symptoms may be correlated with that of periarthiritis shoulder in modern science.

The main symptoms of the Periarthritis shoulder are acute shoulder pain, restricted movements in upper limb, loss of abduction and forward flexion followed by stiffness of the shoulder joint.

The estimated prevalence of frozen shoulder is 2%–3% in the general population and 5%–6% in patients evaluated by shoulder surgeons . Age incidence range from 40 to 70 year, predominantly females are affected

Surgery is one of the treatment options for peri arthritis shoulder in Allopathic system. So the people are in search for a treatment which is free from side effects and can cure the disease.

The Internal drug Parangipattai rasayanam is a Herbal preparation. It wont cause any side effects. Most of the drugs in lasunathy thylam which is used for external application have Anti –Vaatha property.

So a preclinical and clinical study on the kumbavaatham (periarthritis shoulder) and the drug of choice is parangipattai rasayanam (internal) and lasunathy thaylam (external) has been framed to find out the safty and efficacy of the internal and external medicines in the treatment of kumbavaatham (periarthritis shoulder)

AIM AND OBJECTIVES

AIM:

The principle aim of the present study is to evaluate the safety and therapeutic efficacy of the Siddha formulation PARANGIPATTAI RASAYANAM (INTERNAL) and LASUNATHY THAILAM (EXTERNAL)**.**

OBJECTIVES

1.PRIMARY OBJECTIVE :

To evaluate the therapeutic efficacy of the Siddha formulation "Parangipattai rasayanam" (Internal Medicine) and Lasunathy thaylam (external)**.** in the treatment of "kumbavaatham" (Periarthritis shoulder)

2. SECONDARY OBJECTIVE :

1. To Botanical identification and authentication of the trial drug.
2. To prepare the trial drug **PARANGIPATTAI RASAYANAM** as per Siddha literature and analysis of qualitative and quantitative constituents present in the trial drug.
3. To establish the safty profile by performing acute oral toxicity studies and sub acute toxicity studies on mice and rats following WHO guidelines.
4. To analyze the prevalence of kumbavaatham among the society through Age, Sex, Occupation, Distribution etc.

SIDDHA ASPECTS

கும்பவாதம்

DEFINITION:

Kumbavaatham is a condition presenting with the symptoms like pain in the shoulder, arms, burning sensation in the eyes and cheeks, pain below the umbilicus (or) subnavel region, inflamed posterior aspect of tongue, benumbed feeling in the neck and giddiness, Dizziness. It has been classified under eighty types of vaathaa diseases.

AETIOLOGY:

The common aetiological factors for all types of vaatha diseases including kumbavaatham have been described generally in Yugi Vaidhya Chinthamani-800 and Agasthiyar Gunavagadam.

In Yugi Vaidhya Chinthamani, the following causes have been given,

"தானென்ற கசப்போடு துவர்ப்புறைப்பு
சாதகமாய் நெஞ்சுகினும் சமைத்த வண்ணம்
ஆனென்ற வாறினது பொசித்தலாலும்
ஆகாயத்தேறலது குடித்தலாலும்
பானென்ற பகலுறக்க மிரா விழிப்பு
பட்டினியே மிகவுறுதல் பாரமெய்தல்
தேனென்ற மொழியார் மேற்சிந்தையாதல்
சீக்கிரமாய் வாதமிது செனிக்குந்தானே"

"பகரவே வாதமது கோபித்தப்போ
பண்பாக பெண்போக மதுதான்
நகரவே வெகுதூரவழி நடக்கில்
நளிரான காற்றுமே பனிமேற்பட்டால்
மிகரவே காய்கள் கனிகிழங்கு தன்னை
மிகவருத்தி மீறியே தயிர்தான் கொண்டால்
முகரமே முதுகெலும்பை முறுக்கி நொந்து
முழங்காலும் கணைக்காலும் கடுப்பு உண்டாமே"

- Consumption of bitter, astringent and pungent food items excessively
- Eating food cooked on the previous day
- Drinking polluted water
- Changing sleep rhythm
- Excessive starvation
- Lifting heavy weight
- Excessive lust
- Sexual indulgence
- Walking long distance
- Living in chill environment
- Excessive consumption of tubers, fruits, curd, etc
- Pain in both knee and ankle joint.

Vali (Vaatham)

Vali is soft, fine and the temperate (coolness and hotness) which could be felt by touch.

The sites of vali

According to **Vaithya Sathakam**, vali dwells in the following places:

" தெளிந்திட்ட வாதமபானத்தைப் பற்றி
நிறைந்திடையைச் சேர்ந்துந்திக் கீழே நின்று
குளிந்திட்ட மூடமதூ டெழுந்து காமக்
கோடியிடையைப் பற்றியெழுங் றொக்கை நாடி
நிணமான பொருத்திடமும் ரோமக் காலும்
நிறைவாகி மாங்கிசமெல் லாம்பரந்து"

-வைத்திய சதகம்

Umbilicus, Rectum, Faecal matters, Abdomen, Anus, Bones, Hip joints, Navel Plexus, Joints, Hair follicle and Muscles.

"அறிந்திடும் வாத மடங்கு மலத்தினில்"

-திருமூலர்

"நாமென்ற வாதத்துக் கிருப்பிடமே கேளாய்
நாபிக்குக் கீழென்று நவில லாகும்"

-யூகி

According to Sage Yugi muni, the location of Vaatham are the anus and the sub neval region.

கும்பவாதம்:

நவிலவே தோள்மீதுங் கரத்தின் மீதும்
நலிந்து மெத்தவாகி யேநோவுண் டாகும்
கவிலவே கன்னமொடு நயனந் தானும்
கடுத்துமே விருவிருப்பு மெரிவுங் காணும்
துவிலவே துடிப்பாகுஞ் சிரசு தன்னிற்
சுழற்றியே நாபிக்கீழ் வலியு முண்டாம்
அவிலவே யடிநாக்கி லழன்று காணும்
அலருமே வருமே வருகும்ப வாதந் தானே.

-யூகி வைத்திய சிந்தாமணி 800

Clinical Features:

- Pain in the shoulder, arms
- Burning sensation in the eyes
- Benumbed feeling in the neck
- Giddiness
- Dizziness

Properties of Vali*:*

"ஒழுங்குடன் தாதேழ் மூச்சோங்கி இயங்க
எழுச்சிபெற எப்பணியுமாற்ற ஏழுந்திரிய
வேகம் புலன்களுக்கு மேவச் சுறுசுறுப்பு
வாகளிக்கும் மாந்தர்க்கு வாயு"

-சித்த மருத்துவாங்கச் சுருக்கம்

The following are the natural properties of vali

1) To stimulate the respiration
2) To activate the body, mind and the intellect.
3) To activate the fourteen different types of natural reflexes.
4) To activate the seven physical constituents in functional co- ordination.
5) To strengthen the five sense organs.

In the above process Vaatham plays a vital role in assisting the body functions.

vaatha diseases:

According to Theran vagadam:

Loss of appetite, pain and redness, fever and cough, insomnia, Shivering, pain in all joints of the body are the characters of vadha disease. This was mentioned as:

”வாதவீறு அன்னமிறங்காது கடுப்புண்டாம் வண்ணமுண்டாம்
மோதுகட்டு ரோகம் சுரமுண்டா மிருமலுமா முறங்காதென்றும்
ஒதுசுரிய வாத மனலாகு நடுக்க முண்டாம் பொருள்களாய்த்
தீதனவே நரம்பிசித்து சந்துகள் தோறும் கடுக்குந் தினமும்தானே”.

- தேரன் வாகடம்.

According to Agasthiyar Aayul vedham 1200:

Head ache, tremors of the body, insomnia, pallor, giddiness, numbness in both upper limbs and lower limbs are mentioned as the characters of vaatha disease. That is explained in the below verse,

”மெய்யே நடுங்குந் தலைவலிக்கு
மேனி வெளுக்குங் கண்துாங்கும்
பொய்யேதுங் கிறுகிறுக்கும
பேத நயனமெய் நெறியுங்
கைகால் திமிர்ந்து வுலர்த்திவற்றும்
கண்ணு மூக்குஞ் சன்னி கட்டு
மையாமெய்யு மிகவுனளவாம்
வாதரோக குணமிதுவே”

அகத்தியர் ஆயுள் வேதம் 1200

Diagnosis in Siddha:

Piniyari muraigal (Method of Diagnosis) is based upon three main principles,

Poriyal Arithal
Pulanal Arithal
Vinaathal

UDAL KATTUGAL:

Our body consists of seven udal kattukal. They give strength and structure to our body.

In kumbavaatham**,** oon, Kozhuppu and Enbu thathukkal are commonly affected.

IMPORIGAL:

Gnanenthiriyam are mei, vaai, kan, mooku and sevi.

In kumbavaatham no abnormalities are seen in gnanenthiriyam.

KANMENTHIRIYAM:

Kanmenthiriyam are kai, kaal, vaai, eruvaai, karuvai.

In kumbavaatham “kai” is affected. There will be pain and swelling, stiffness, restricted movements of the shoulder joints.

ENVAGAI THERVUGAL (Eight diagnostic Tools):

It is a unique method of diagnosis in Siddha system of medicine. They are clearly explained by Siddhar Theraiyar as below,

"நாடி ஸ்பரிசம் நா நிறம் மொழி விழி
மலம் மூத்திரமிவை மருத்துவராயுதம்"
- தேரையர்

1. Naadi (Pulse):

In kumbavaatham the following Naadi can be seen commonly.

Vaathapitham, Pithavaatham

2. Sparism (Sensation to touch):

In kumbavaatham mild warmth noticed over the affected joint.

3. Naa (Tongue):

In kumbavaatham no abnormality is seen in Naa.

4. Niram(Colour):

In kumbavaatham no abnormality is seen in Niram.

5. Mozhi (Voice):

In kumbavaatham no abnormality is noted in voice.

6. Vizhi (Eyes):

In kumbavaatham no abnormality is noted in eyes.

7. Malam (Faeces):

In kumbavaatham constipation was reported in some cases.

8. Moothiram (Urine):

In urine (Moothiram) Neerkkuri and Neikkuri (Oil on urine sign) examinations are also done.

Urine is examined for the following neerkkuri:

- Niram - Colour
- Edai - Specific Gravity
- Manam - Smell
- Nurai - Frothy nature
- Enjal - Quantity of urine voided

Apart from these, frequency of urination, abnormal constituents, such as sugar, protein, presence of blood, pus, presence of crystals also to be found out.

Naadi (Pulse):

Naadi is the first and foremost diagnostic parameter of the Siddhars. It is the seat anchor of energy. The pulse wave as felt on the radial artery, one inch from the wrist by means of palpation with the tip of index, middle and ring finger corresponds to Vaatham, Pitham and Kabam. They normally exist in the ratio 1:1/2:1/4 respectively.

In kumbavaatham the following types of Naadi can be commonly seen.They are

- Vaathapitham
- Pithavaatham

வாத பித்த நாடி

"பொருளான வாதத்தில் பித்தஞ் சேர்ந்து

பொருந்து குணங்களா முஷ்ணவாயு சத்தி

செரியாமை புளித்தேப்பம் பொருமல் நீரிற்

சிவப்புமலம் பிடித்தலுருந் தாது நட்டம்

கருவான தேகமதி லுளைச்சல் சோம்பல்

கைகால் தறிப்புநாக் கசக்கு மன்னம்

பரிவான ஊண்குறைதல் ருசிகே டாதல்

பல நோயும் வருத்திவைக்கும் பாங்கு தானே"

- சதக நாடி

பித்த வாதநாடி

சிறப்பான பித்தத்தில் வாதநாடி

சேரிலுறுந் தாது நட்ட முதரபீடை

உறைப்பாகச் செரியாமை குன்மஞ்சூலை

உற்ற சுரங் கிராணி வயிற்றிரைச்சல் மந்தம்

அறைப்பான வோங்காரப் புறநீர்க்கோவை

ஆயாசங் கிறுக்கோடு மக்க மூர்ச்சை

முறைக்காய்வு விடவீக்கம் மூலவாய்வு

முரடான நோய் பலவு முடுகும் பன்பே.

- சதக நாடி

NOI KANIPPU VIVAATHAM (DIFFERENTIAL DIAGNOSIS):

Some other types of vaatha diseases mimic kumbavaatham. Careful, clear history taking and examination will reveal the diagnosis. They are:

1. Paei vaatham
2. Cegana vaatham
3. Kazhuththu vaatham
4. Kurisa kirisavaatham.

The clinical features of above diseases are mentioned in literatures as below:

Paei Vaatham:

“பெற்றியாம் பெருமையாங் காலுங் கையும்

பெருவயிறு நெஞ்சோடு விரலு மூக்கும்

ஏற்றியா மெறிகழுத்து மெங்கும் பற்றி

ஏக்கமாய் நொந்துடவும் பெங்கும் வீங்கி

உற்றியா மூணவே நிமிர்த்தெடுத்து
உறுதியாய்ப் பிடிக்கவு மொணாலாகும்
சக்தியாய் வாய் கசந்து மயக்கமாகுந்
தரித்திட வொண் ணாது பேய்வாதந் தானே”

- Pain and swelling in the abdomen, upper and lower limbs
- Numbness (or) Weakness of hand muscles, difficulty in holding things in the hand.
- Vomiting
- Giddiness
- Swelling all over the body

Cegana vaatham :

“கேளுமே கழுத்தின் கீழரைக்கு மேலுங்
கெடியான கரமிரண்டு மிகவே நொந்து
வாளுமே சரீரமெலாங் கனத்திருக்கும்
வாலிபர்க்கு மனங்கண்ணு மயக்கமாகும்
ஏளுமே யிரண்டுகண்ணு மெரிச்சலுண்டா
மேற்றமாய் சலந்தானு மிறுகிக் காணுந்
தேளுமே கொட்டினது போற்க் கடுக்கும்
சகனவா தத்தினிட தீர்க்கந்தானே”

- யூகி வைத்திய சிந்தாமணி

- Pain in the neck to Lumbar region
- Radiating pain in the shoulders and upper limbs
- Heaviness of the body
- Mental depression
- Giddiness
- Burning sensation of the eyes
- Increased urine output.

Kazhuththu Vaatham (Kooni Kiraga Vaatham):

“கழுத்தை திருப்பாதே பிடித்து
கதிரிட்டு உளைந்தார் போலே காணும்
செழித்தே நரம்பு தடித்து நிற்கும்
சீராக அசைக்க வொட்டாது

இழுத்தே பிடித்து இராப்பகலும்
இடரே செய்யும் கழுத்து வாதம்
வழுத்தும் குணங்கள் தரணி தன்னில்
வசையாய் அறிவீர் பண்டிதரே”

- வாதநோய் மருத்துவம்

- Stiffness and restriction of movements of the neck
- Burning pain in neck
- Thickening of nerves in neck
- Symptoms continue day and night

Kurisa kirisa vaatham:

“சிறப்பான பாம்புவிடம் போல ஏறிச்
செறிவாக விறங்கியதோர் செய்கை போலுந்
துறப்பான சூரையா யரையிற் றட்டைச்
சுழலவே சுருக்கிதான் பற்றி யங்கம்
பிறப்பான பீறியதோர் குடலைப் போல
பிதிர்கின்ற வன்போலும் பிரமி யென்ன
மிறப்பான தோலில்முள் பொதிந்தாற் போல
முயன்றிடுங் காண்குரிச கிரிச மூர்க்கந் தானே.”

- சித்த மருத்துவம் பொது

- Pain in groin
- Pricking pain in shoulder

LINE OF TREATMENT:

In Siddha system the treatment is mainly based upon the Mukkuttram principle. Treatment is not only for perfect cure but also for the prevention of diseases and rejuvenation of udal kattukkal. The physician’s duty is to diagnose the disease, trace the etiology and choose proper line of treatment.

Thiruvalluvar has stated this as,

“நோய் நாடி நோய் முதல்நாடி அது தணிக்கும்
வாய் நாடி வாய்ப்பச் செயல்”

“உற்றானளவும் பிணியளவும் காலமும்
கற்றான் கருதிச் செயல்”

- திருக்குறள்

So it is essential to know the disease, its etiology, the nature of the patient, severity of the illness, duration of disease , seasons and time of occurrence, etc.,

The management of the disease in Siddha is as follows,

1. **Neekkam(treatment)**
2. **Niraivu(restoration)**
3. **Kaappu(prevention)**

After occurrence of the disease, first it should be treated, restoration should be done and recurrence or further complications should be prevented.

1. NEEKKAM:

Nekkam is based on,

- Balancing deranged thodams to normal equilibrium state.
- Treating with internal medicine and external medicine.
- Deranged vaatham has to be brought to its normal state by giving purgation. It is mentioned in the following verses,

“விரேசனத்தால் வாதம் தாழும்”

-சித்த மருத்துவாங்க சுருக்கம்

Purgation:

Agasthiyar kuzhambu – 130mg given with zinger juice , in early morning (for the first day only)

Internal drug: PARANGIPATTAI RASAYANAM

DOSAGE : Pakkalavu -6 gms , twice a day

ADJUVANT : MILK

COURSE **:** 24 DAYS

External drug: LASUNATHY THYLAM

DOSAGE: Sufficient quantity (50 ml apply)

2. NIRAIVU:

The patient is convinced to accept the eventuality of the disease and modification of life style.

"ஒன்றிய வாதபித்த கபமிவை யுயரா வண்ணம்
நன்றுறு கறிகளெல்லாம் நாளுமே சமைப்பாராய்ந்தோர்
தின்றிடு மிளகு மஞ்சள் சீரக முயர்ந்த காயம்
வென்றி கொள் சுக்கோடேலம் வெந்தயம் உள்ளி சேர்த்தே"

- பதார்த்த குண சிந்தாமணி

To maintain normal level of three humours, pepper, turmeric, cuminseeds, asafoetida, dry ginger, cardamom, fenugreek and garlic should be added generously in diet.

DIETARY ADVICE

- **காய்கள்**
  கத்தரிபிஞ்சு,முருங்கைபிஞ்சு,,அவரைபிஞ்சு,பிரண்டை துவையல் ஆகியவை சேர்க்க வேண்டும்.
- **கீரைகள்**:
  பொன்னாங்கண்ணி,மூக்கிரட்டை,தூதுவேளை, முருங்கைகீரை,கறிவேப்பிலை, முடக்கறுத்தான், அறுகீரை, கரிசாலை ஆகியவை சேர்க்க வேண்டும்.
- **பழங்கள்**:
  மாதுளை,ஆப்பிள், பப்பாளி, ஆரஞ்சு, பேரீச்சை, அத்தி, நாவல் ,ஆகியவை சேர்க்க வேண்டும்.
- **அசைவம்**:
  வெள்ளாட்டுக்கறி, காடை, சிறு இறால் மீன் கத்திரிக்காய், அவரைக்காய், முதலிய பொரியல்களோடு கூட்டி தரலாம். துவரம் பருப்பு ரசம் சேர்க்க வேண்டும்.

- ஈரமில்லா தரையிலும், படுக்கையிலும் படுத்தல் வேண்டும்,
- குளிர் காற்று படும்படியான இடத்தில் இருப்பதை தவிர்க்கவும்

சேர்க்க கூடாதவைகள்:

• சுரை	உப்பு
• பூசணி	புளிப்பு
• வெள்ளரிக்காய்	அதிக கைப்பு
• புடலை	அதிக கார்ப்பு
• பீர்க்கு	மந்தப் பொருள்
• மொச்சை	வெற்றிலை,பாக்கு
• காராமணி	புகையிலை
• உளுந்து	மது அருந்துதல்
• கொள்ளு,	பெண்போகம்
• கடுகு	

3. KAAPPU:

Siddha system prominently projects prevention of diseases. This is attained by the following methods,

1. Maintaining equilibrium of three humors by adopting vaanthi, kazhichal, nasiyam, nei muzhukku techniques.
2. Avoiding stress and strain.
3. Maintaining good mental health by doing meditation.

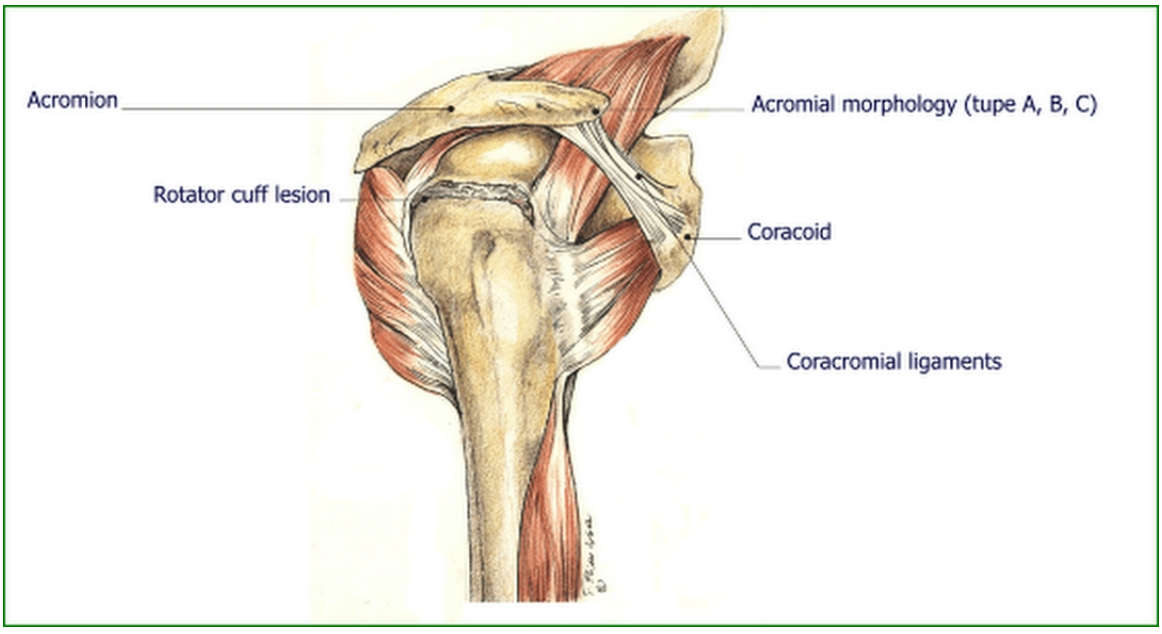
PERIARTHRITIS

ANATOMY OF SHOULDER JOINT

Syn: Glenohumeral joint

The **glenohumeral joint** is a synovial ball and socket articulation between the head of the humerus and the glenoid cavity of the scapula . It is multiaxial with a wide range of movements provided at the cost of skeletal stability. Joint stability is provided, instead, by the rotator cuff muscles, the long head of the biceps brachii muscle, related bony processes, and extracapsular ligaments. Movements at the joint include flexion, extension, abduction, adduction, medial rotation, lateral rotation, and circumduction.

The articular surfaces of the glenohumeral joint are the large spherical head of the humerus and the small glenoid cavity of the scapula . Each of the surfaces is covered by hyaline cartilage.



Shoulder joint

The glenoid cavity is deepened and expanded peripherally by a fibrocartilaginous collar (the **glenoid labrum)**, which attaches to the margin of the fossa. Superiorly, this

labrum is continuous with the tendon of the long head of the biceps brachii muscle, which attaches to the supraglenoid tubercle and passes through the articular cavity superior to the head of the humerus.

The synovial membrane attaches to the margins of the articular surfaces and lines the fibrous membrane of the joint capsule . The synovial membrane is loose inferiorly. This redundant region of synovial membrane and related fibrous membrane accommodates abduction of the arm.

The synovial membrane protrudes through apertures in the fibrous membrane to form bursae, which lie between the tendons of surrounding muscles and the fibrous membrane. The most consistent of these is the **subtendinous bursa of subscapularis**, which lies between the subscapularis muscle and the fibrous membrane. The synovial membrane also folds around the tendon of the long head of the biceps brachii muscle in the joint and extends along the tendon as it passes into the intertubercular sulcus. All these synovial structures reduce friction between the tendons and adjacent joint capsule and bone.

In addition to bursae that communicate with the articular cavity through apertures in the fibrous membrane, other bursae are associated with the joint but are not connected to it.
These occur:

- between the deltoid and supraspinatus muscle and the joint capsule (the **subacromial bursa**)
- between the acromion and skin
- between the coracoid process and the joint capsule;
- in relationship to tendons of muscles around the joint (coracobrachialis, teres major, long head of triceps brachii, and latissimus dorsi muscles).

The fibrous membrane of the joint capsule attaches to the margin of the glenoid cavity, outside the attachment of the glenoid labrum and the long head of the biceps brachii muscle, and to the anatomical neck of the humerus

On the humerus, the medial attachment occurs more inferiorly than the neck and extends onto the shaft. In this region, the fibrous membrane is also loose or folded in the

anatomical position. This redundant area of the fibrous membrane accommodates abduction of the arm.

Openings in the fibrous membrane provide continuity of the articular cavity with bursae that occur between the joint capsule and surrounding muscles and around the tendon of the long head of the biceps brachii muscle in the intertubercular sulcus.

The fibrous membrane of the joint capsule is thickened:

- anterosuperiorly in three locations to form **superior**, **middle**, and **inferior glenohumeral ligaments**, which pass between the superomedial margin of the glenoid cavity to the lesser tubercle and inferiorly related anatomical neck of the humerus
- superiorly between the base of the coracoid process and the greater tubercle of the humerus (the **coracohumeral ligament**);
- between the greater and lesser tubercles of the humerus (**transverse humeral ligament**)-this holds the tendon of the long head of the biceps brachii muscle in the intertubercular sulcus

Joint stability is provided by surrounding muscle tendons and a skeletal arch formed superiorly by the coracoid process and acromion and the coraco-acromial ligament.

Tendons of the rotator cuff muscles (the supraspinatus, infraspinatus, teres minor, and subscapularis muscles) blend with the joint capsule and form a musculotendinous collar that surrounds the posterior, superior, and anterior aspects of the glenohumeral joint. This cuff of muscles stabilizes and holds the head of the humerus in the glenoid cavity of the scapula without compromising the arm's flexibility and range of motion. The tendon of the long head of the biceps brachii muscle passes superiorly through the joint and restricts upward movement of the humeral head on the glenoid cavity.

Vascular supply to the glenohumeral joint is predominantly through branches of the anterior and posterior circumflex humeral and suprascapular arteries.

The glenohumeral joint is innervated by branches from the posterior cord of the brachial plexus, and from the suprascapular, axillary, and lateral pectoral nerves.

PERIARTHRITIS

Synonyms

Frozen shoulder

Adhesive capsulitis

Background:

Adhesive capsulitis and frozen shoulder syndrome (FSS) are 2 terms that have been used to describe an array of clinical conditions, including subacromial bursitis, calcifying tendinitis, and partial rotator cuff tears. Despite the diverse nomenclature used to describe FSS, all of these terms denote different clinical conditions that may cause the painful restriction of active and passive glenohumeral and periscapular shoulder motion.

Lundberg divided patients who met the pain and motion requirements of frozen shoulder into 2 groups: primary and secondary.A patient meets the criteria of primary or secondary FSS if painful, restricted active and passive glenohumeral and scapulothoracic motion occurs for at least 1-month duration and has either reached a plateau or worsened. This inclusion period for defining frozen shoulder is similar to that described by Binder and colleagues but is shorter than that defined by Lloyd-Roberts and coworkers.

Patients with primary frozen shoulder have no significant findings in the history, clinical examination, or radiographic evaluation to explain their motion loss and pain. Classically, symptoms of primary frozen shoulder have been divided into 3 phases: (1) the painful phase, (2) the stiffening phase, and (3) the thawing phase. In the initial painful phase, there is a gradual onset of diffuse shoulder pain lasting from weeks to months. The stiffening phase is characterized by a progressive loss of motion that may last up to 1 year. Most patients lose glenohumeral external rotation, internal rotation, and abduction during this phase. The final, thawing phase is measured in weeks to months and constitutes a period of gradual motion improvement. Once in this phase, the patient may require up to 9 months to regain a functional range of motion (ROM).

In contrast to patients with primary FSS, patients with secondary FSS describe an event that preceded shoulder symptomatology, such as trauma or surgery to the affected upper extremity.

Definition of Frozen Shoulder:

The term frozen shoulder (FS) is used to describe a clinical condition with restricted active and passive range of motion in all directions, flexion, abduction and rotation.

The definition, also defined by Lundberg, is:

- shoulder joint elevation of ≤135°
- restriction of motion is localised to the glenohumeral joint

It is defined as a clinical syndrome characterised by painful restriction of both active and passive shoulder movements due to causes within the shoulder joint or remote (other parts of the body)

Epidemiology

Frequency

Frozen shoulder usually affects patients aged 40-70 years. Incidence of FSS is not precisely known; however, it is estimated that 3% of people develop the disease over their lifetime. Males tend to be affected less frequently than females, and there is no predilection for race.

frozen shoulder has been associated with several conditions. A higher incidence of frozen shoulder exists among patients with diabetes (10-20%) compared with the general population (2-5%). Incidence among patients with insulin-dependent diabetes is even higher (36%), with an increased frequency of bilateral shoulder involvement

Etiology:

- The precise cause of Frozen Shoulder is unknown.
- It can occur after a single traumatic injury to the shoulder, especially in the area of the joint capsule; overuse injuries or repetitive stress such as in competitive sports; prolonged immobilization of the shoulder as in the case of a fracture.
- Women and people over 40 are more likely to develop this condition.
- People with diabetes have a higher risk of developing this problem than the general population.
- The same is true for people with chronic fatigue syndrome,
- people with history of heart disease or strokes, or cervical diseases,
- people with hypo- or hyperthyroidism.
- In view of these statistical relationships, frozen shoulder has been considered by researchers to have an autoimmune component, meaning that the body's immune system may attack the healthy parts of the body, in this case the capsule and connective tissue of the shoulder.

Types:

- Perhaps it is wise to use the initial classification of Lundberg (1969):
  - Primary Frozen shoulder
  - Secondary Frozen shoulder
- But not even this is clear – these groups need to be subdivided:
  - **Primary Frozen shoulder**

    Diabetic
  - **Secondary Frozen shoulder**

    Post-traumatic

    Latrogenic

    Other
- In some, the diabetic frozen shoulder is a Secondary type **.**The secondary may be divided into
  - Extrinsic (causes outside the joint) and
  - Intrinsic (causes inside the joint).

Intrinsic (Shoulder causes): problems directly related to shoulder joint which can give rise to frozen shoulder are tendinitis of rotator cuff, bicipital tendinitis, fractures and dislocations around the shoulder, etc.

Extrinsic (Nonshoulder causes): problems not related to shoulder joint like diabetes, cardiovascular diseases with referred pain to the shoulder which keeps the joint immobile, reflex sympathetic dystrophy, frozen hand shoulder syndrome, a complication of Colles' fracture can all lead to frozen shoulder. The reason could be prolonged immobilisation of the shoulder joint due to referred pain, etc.

PATHOGENESIS:

When looking at secondary frozen shoulder, the cause of the syndrome is usually easy to define.

In the post traumatic cases there is clear evidence of a trauma and usually also structural changes within or adjacent to the joint, such as fractures, chondral lesions, avascular necrosis or tendon injuries. Scarring following traumatic tissue injury is another cause.

The iatrogenic cases occur following treatment, usually surgery. In these cases extreme scarring following tissue repair may occur or surgical mistakes such as over tightening of soft tissue may be responsible for the following limitation in range of movement.

Clinical features:

There are three classical stages in frozen shoulder.

Stage I (Stage of pain): patient complains of acute pain, decreased movements, external rotation greatest followed by loss of abduction and then forward flexion. Internal rotation is least affected. This stage lasts for 10 to 36 weeks.

Stage II (Stage of Stiffness): in this stage pain gradually decreases and the patient complaints of stiff shoulder. Slight movements are present.

Stage III (Stage of Recovery): patient will have no pain and movement will have recovered but will never be regained to normal. It lasts for 6 months to 2 years.

Signs and Symptoms of Periarthritis

- The shoulder joint becomes painful and stiff
- The cause for this inflammatory disease is not known
- There occurs a loss of resilience of the joint capsule, possibly due to adhesion formation
- In the early stages of the disease, the pain is worse at night and the movements are slightly restricted
- Later, there is pain at all times and all the shoulder movements get severely limited
- There could possibly be a history of trauma

Tests and diagnosis

- **Hands up.** Raise both your hands straight up in the air, like a football referee calling a touchdown.
- **Opposite shoulder.** Reach across the chest to touch the opposite shoulder.
- **Back scratch.** Starting with the back of the hand against the small of the back, reach upward to touch the opposite shoulder blade.

Diagnosis:

Frozen shoulder can usually be diagnosed from signs and symptoms and X-rays or an MRI — to rule out other structural problems

If a physical exam reveals limited shoulder movement. An X-ray may be done to see whether symptoms are from another condition such as arthritis or a broken bone.

An arthrogram, which is an X-ray image of joint taken after a contrast material (such as a dye or air) is injected into it, can help confirm the diagnosis

Clinical Examination of Frozen shoulder:

History
- age: 45+ (insidious type)
- Insidious onset or after trauma or surgery

- Functional restriction of LR, ABD, MR (capsular pattern)
- Normal bone and soft tissue outlines

Observation
- Normal bone and soft tissue outlines

AROM (Active Range Of Motion)
- restricted ROM
- shoulder hiking

PROM (Passive Range Of Motion)
- Limited ROM, especially in: LR, ABD, MR (capsular pattern)

RROM
- Normal, when arm by side

Sensory function and reflexes
- not affected

Palpation
- Not painful unless, capsule is stretched

Diagnostic imaging
- Radiography: negative
- Arthrography: decreased capsular size

Lifestyle and home remedies

Continue to use the involved shoulder and extremity in as many daily life activities as possible within the limits of your pain and range-of-motion constraints. Applying heat or cold to your shoulder can help relieve pain.

One of the most common causes of frozen shoulder is the immobility that may result during recovery from a shoulder injury, broken arm or a stroke. If you've had an injury that makes it difficult to move your shoulder

1. Differential diagnosis:

1. Rotator Cuff

History

- age : 30 - 50 yrs
- Pain and weakness after eccentric load

Observation

- Normal bone and soft tissue outlines
- protective shoulder hike may be seen

AROM

- weakness of abduction or rotation or both
- crepitus may be present

PROM

- Pain if impingement occurs

RROM

- Pain and weakness on abduction and lateral rotation

Special tests

- Drop arm test is positive
- Empty can test is positive

Sensory function and reflexes

- not affected

Palpation

- tender over rotator cuff

Diagnostic imaging

- Radiography: upward displacement of humeral head;
- acromial spurring
- MRI diagnostic

2. A traumatic instability

History
- age: 10 - 35 yrs
- Pain and instability with activity
- no history or trauma

Observation
- Normal bone and soft tissue outlines

AROM
- full or excessive ROM

PROM
- Normal or excessive ROM

RROM
- Norm

Special tests :
- Load and shift test is positive
- Apprehension test is positive
- Relocation test is positive

-Augmentation test is positive

Sensory function and reflexes - anterior or posterior pain

Palpation - negative

3. Cervical Spondylosis

History
- age 50+ yrs
- Acute or chronic

Observation

- Minimal or no cervical spine movement
- Torticollis may be present

AROM

- limited ROM with painPROM
- Limited ROM (Symptoms may be exacerbated)

RROM

- Normal, except if nerve root compressed
- Myotome may be affected

Special tests :

- Spurling's test is positive
- Distraction test is positive
- ULTT is positive
- Shoulder abduction test is positive (put your hand on top of your head)

Sensory function and reflexes

- Dermatomes affected
- Reflexes affected

Palpation

- tender over appropriate vertebra or facet

Diagnostic imaging

- Radiography: narrowing osteophytes

Management:

Treatment goals include reduction in pain and inflammation, as well as preserving mobility and preventing disability and recurrence. The treatment recommendations may include a combination of rest, splints, heat and cold application.

PROPERTIES OF TRIAL DRUG

1. PARANGIPATTAI RASAYANAM (INTERNAL)

INGREDIENTS

Parangipattai – *Smilax china* .Linn – 16 balam (560 grms)

Kodiveli - *Plumbago zeylanica*

Sanguver – *Clitoria ternatea* ,linn.

Amukaraa – *Withania somnifera* (linn) dunal

Nilappanai – *Curculigo orchiodes* .gaertn

Thipilimoolam - Root of *Piper longum*, Linn.

Thalisapathiri - – *Abies spectabilis* (d.don) mirb

Lavangapathiri –*Cinnamomum tamala* (buch,hum) nees.

Milagu - *Piper nigrum*,Linn.

Thipili - *Piper longum*,Linn.

Omam – *Carum capticum* benth andhook.f.

Kurosaaniomam – *Hyoscyamus niger* Linn

Kaurunjeeragam – *Nigella sativa*,Linn.

Sitharathai - *Alpinia officinarum* (Linn) wild

Perarathai - *Alpinia galanga* (Linn) wild

Kadukkai - *Terminalia chebula*, Retz

Thaanrikai - *Terminalia bellarica.(*Gaertn) Roxb

Nellimulli - *Phyllanthus emblica*,Linn

Sevviyam - Root of *Piper nigrum*, Linn.

Vaalmilagu – *Piper cubeba* .lin f

Kozhtam - *Costus specius*,(Koenig ex Retz) J.E.Smith

Kasakasa – *Papaver somniferum* Linn.

Malli – *Coriandrum sativum* ,Linn.

Jadaamanjil – *Nardostachys grandiflora* ,dc.

Kiraambu – *Syzygium aromaticum* (Linn)merrill and perry

Saathikaai – *Myristica fragrans* houtt

Lavangapattai – *Cinnamomum verum* , presl

Sukku - *Zingiber officinale*, Rose.

Above all the drug each	-	½ balam (17.5 gms)
Ghee	-	2 padi (4litre)
Sugar	-	2 saer (560 gms)
Cow's Milk	-	sufficient amount
Honey	-	1padi (2 litres)

2.LASUNATHY THYLAM (EXTERNAL)

INGREDIENTS:

Vellulli	–	A*llium sativum*, linn.	-	1 padi (2litr)
Arathai	–	*Alpinia galanga* (linn) wild	-	1/2 palam (17.5gms)
Vaaivilangam	–	*Embelia ribes*,F.Burm	-	1/2 palam (17.5gms)
Vasambu	–	*Acorus calamus*. Linn	-	1 /2palam (17.5gms)
Sevviyam	-	Root of *Piper nigrum*, Linn.	-	1 palam (35gms)
Manjal	-	*Curcuma longa*,Linn.	-	1 palam (35gms)
Maramanjal	-	*Coscinium fenestratum*,(Gaertn)Colebr-	1 palam (35gms)	

Milagu	-	*Piper nigrum*,Linn	- 3 palam (105gms)
Thipilimoolam	-	Root of *Piper longum*, Linn.	- 3 palam (105gms)
Murungai	–	Root of *Moringa oleifera* lam.	- 1/4 palam (8.75gms)
Nochi	–	Root of *Vitex negundo*,linn.	- 1/4 palam (8.75gms)
Kandankathiri	–	Root of *Solanum surattense*,Burn.f.	- 1/4 palam (8.75gms)
Mulli	–	Root of *Hygrophila auriculata*	- 1/4 palam (8.75gms)
Erukkampoo	–	Root of *Calotropis gigantea* (linn)R.Br	- 1/4 palam (8.75gms)
Aayilpattai	–	Root of *Chukrasia tabularis*,a.juss	- 1/4 palam (8.75gms)
Kodiveli	–	Root of *Plumbago Zeylanica* .linn	- 1/4 palam (8.75gms)
Gingelly oil	-	4 padi (8 litr)	

சங்கன்

Botanical Name : Azima tetracantha,lam

Parts used : Root, Leaves

Organoleptic Characters

Taste - Kaippu

Potency - Veppam

Pirivu - Kaarppu

பொது குணம்

வீக்கம் கரப்பான் விதாகம் கிரந்திகுன்மம்
ஊக்கமிகு **சூலை**வாய் வோடுபித்தந் - தாக்குவிடம்
வீறுமோ கண்துலங்கும் வீசுபசி ரத்தமுண்டாம்
கூறுசங்கம் வேரிலை கட்கு.

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Diuretic

Stimulant

Astringent

Tonic

Antiperiodic

Expectorant

அமுக்காரா

Botanical Name : Withania somnifera, linn

Parts used : Tubers, Leaves, Seed

Organoleptic Charecters

Taste - Kaippu

Potency - Veppam

Pirivu - Kaarppu

பொது குணம்

கொஞ்சந் துவர்ப்பாங் கொடியகயம் சூலையரி
மிஞ்சுகரப் பான்பாண்டு வெப்பதப்பு – விஞ்சி
முசுவுறு தோடமும்போ மோகம்அன லுண்டாம்
அசுவகந் திக்கென் றறி.

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Soporific

Sedative

Aphrodisiac

Deobstruent

Diuretic

Tonic

நிலப்பனை

Botanical Name : Curculigo orchioides.Gaertn

Parts used : Tubers, Root

Organoleptic Charecters

Taste - Inippu

Potency - Thatpam

Pirivu - Inippu

பொது குணம்

மேக வனல்தணியும் வெண்குட்டந் தான்விலகும்

போக மிகவுமுறும் பொற்கொடியே! – போகாத

சூலைமே கங்களோடு துன்னுகரும் புள்ளியும்போஞ்

சால நிலப்பனைக்குத் தான்

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Tonic

Diuretic

Astringent

Carminative

Emollient

தாளிசபத்திரி

Botanical Name : Abies spectabilis ,Mirb

Parts used : Leaf

Organoleptic Charecters

Taste - Kaarppu

Potency - Veppam

Pirivu - Kaarppu

பொது குணம்

நாசி களப்பிணிகள் நாட்பட்ட - காசஞ்சு

வாசம் அருசி வனமங்**கால்** - வீசிவரு

மேகமந்தம் அத்திசுரம் விட்டேகுந் தாளிசத்தால்

ஆகுஞ் சுகப்பிரச வம்

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Stomachic

Carminative

Expectorant

Tonic

இலவங்கப்பத்திரி

Botanical Name : Cinnamomum tamala Nees.

Organoleptic Charecters

Taste - Kaarppu

Potency - Veppam

Pirivu - Kaarppu

பொது குணம்

மேகசுரம் சீதசுரம் வெட்டைசுவா சங்காசம்

தாகபித்தம் வாந்திசர் வாசியநோய் - மேகத்தின்

கட்டியொடு தாதுநட்டங் கைப்பருசி போக்கிவிடும்

இட்டஇல வங்கத் திலை

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Stomachic

Carminative

Stimulant

Diaphoretic

ஓமம்

Botanical Name : Carum copticum benthandhook.f.

Parts used : Seeds

Organoleptic Charecters

Taste - Kaarppu

Potency - Veppam

Pirivu - Kaarppu

பொது குணம்

சீதசுரங் காசஞ் செரியாமந் தம்பொருமல்

பேதியிரைச் சல்கடுப்பு பேராமம் - ஓதிருமல்

பல்லொடுபல் மூலம் பகமிவைநோ யென்செயுமோ?

சொல்லொடுபோம் ஓமமெனச் சொல்

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Antiseptic

Stomachic

Carminative

Antispasmodic

Stimulant

Tonic

Sialogogue

குரோசாணி ஓமம்

Botanical Name : Hyoscyamus niger linn.

Parts used : Seeds

Organoleptic Charecters

Taste - Kaarppu

Potency - Veppam

Pirivu - Kaarppu

பொது குணம்

வெகுமூத் திரம்**வாதம்** வீரியநட் டம்புண்

உகுபேதி யுட்கடுப்பி னோடே – மிகுகரப்பான்

தீராக் கபமிவைபோம் செய்யகு ரோசானியென்றால்

வாரா மயக்கமுறு மால்

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Hypnotic

Sedative

Anodyne

Antispasmodic

Mild Diuretic

சிற்றரத்தை

Botanical Name : ***Alpinia officinarum*** **(Linn) wild**

Parts used : **Root**

Organoleptic Charecters

Taste - Kaarppu

Potency - Veppam

Pirivu - Kaarppu

பொது குணம்

வாதபித் தங்கரப்பான் **வாதஞ்** சிரோரோகஞ்

சேர்ந்தகப முத்தோடஞ் சீதமொடு – நேர்ந்தசுரம்

மற்றரத்தைக் காட்டி வருமிரும லுந்தீரும்

சிற்றரத்தை வன்மருந்தால் தேர்.

-தேரர் குணவாகடம்

Therapeautic Actions

Expectorant

Febrifuge

Stomachic

பேரரத்தை

Botanical Name : ***Alpinia galanga*** **(Linn) wild**

Parts used : root

Organoleptic Charecters

Taste - Kaarppu

Potency - Veppam

Pirivu - Kaarppu

பொது குணம்

அரத்தை கபத்தை அறுக்குங்கால் ஓட்டுஞ்
சிரத்திலுறும் ஈளையைச் சிதைக்கும் - இரைத்துவரும்
பித்ததோ டத்தைப் பிறவலிப்பை மாற்றிவிடும்
உற்றசர்வ வலிவிடம்போக் கும்.

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Expectorant

Febrifuge

Stomachic

நெல்லி

Botanical Name : ***Phyllanthus emblica*****,Linn**

Parts used : Fruits, Leaves, Flowers, Root, Seed

Organoleptic Charecters

Taste - Pulippu, Thuvarppu, Inippu

Potency - Thatpam

Pirivu - Inippu

பொது குணம்

பித்தமன லையம் பீநசம்வாய் நீர் வாந்தி

மத்தமலக் காடும் மயக்கமுமில் - ஒத்தவுரு

வில்லிக்கா யம்மருங்கா மென்னாட்கா லந்தேர்ந்தே

நெல்லிகா யம்மருந் துணீ.

-தேரர் குணவாகடம்

Therapeautic Actions for Fruits

Refrigerant

Diuretic

Laxative

செவ்வியம்

Botanical Name : Root of *Piper nigrum*, Linn.

Parts used : Root

பொது குணம்

சூலை அருகிசன்னி தொல்லிருமல் ஈளைபித்தம்

மேலைக் குரற்கம்மல் வெங்களநோய் - மூலசுரம்

கவ்வியங்கத் தேறு கனதா வரவிடமுஞ்

செவ்வியங் கொள்ளவிடுந் தேர்.

-அகத்தியர் குணவாகடம்

வால்மிளகு

Botanical Name : *Piper cubeba* .linn

Parts used : Dried Unriped fruit

Organoleptic Charecters

Taste - Kaarppu

Potency - Veppam

Pirivu - Kaarppu

பொது குணம்

வாதபித்த ஐயம் வயிற்று வலிதாகஞ்
சீதம் பலநோய் சிதையுங்காண் - போத
அதிதீ பனமாம் அணங்கரசே! நாளுந்
துதிவால் மிளகருந்தச் சொல்.

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Stimulant

Carminative

Diuretic

Expectorant

கோட்டம்

Botanical Name : *Costus speciorus*, (Koenig ex Retz) J.E.Smith

Parts used : Root

Organoleptic Charecters

Taste - Kaarppu

Potency - Veppam

Pirivu - Kaarppu

பொது குணம்

நாட்டிலுரு வெட்டை நடுக்கம் எனுநோய்கள்

கோட்டமெனச் சொன்னால் குலையுங்காண் - கூட்டிற்

சுரதோடந் தொண்டைநோய் தோலாத பித்தம்

பரதேசம் போமே பறந்து.

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Stomachic

Expectorant

Tonic

Stimulant

Diaphoretic

கசகசா

Botanical Name : *Papaver somniferum* Linn

Parts used : Seed

Organoleptic Charecters

Taste - Inippu

Potency - Veppam

Pirivu - Inippu

பொது குணம்

கிருமி நமைச்சல் கிராணியதி சாரஞ்

சிரநீர் அநித்திரைபோஞ் செப்பில் - உருவழகுங்

காந்தியுமுண் டாகுங் கசகசா வின்குணத்தைத்

தேர்ந்தவர்க்கு விந்துவுமாந் தேர்

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Demulent

Nutritive

Mild Astringent

கொத்துமல்லி

Botanical Name : *Coriandrum sativum* ,Linn.

Parts used : Seed, Leaves

Organoleptic Charecters

Taste - Kaarppu

Potency - Seetha Veppam

Pirivu - Kaarppu

பொது குணம்

கொத்துமல்லி வெப்பம் குளிர்காய்ச்சல் பித்தமந்தஞ்
சர்த்திவிக்கல் தாகமொடு தாதுநட்டம் - கத்தியெழும்
வாத விகார்மடர் வன்கர்த்த பிவிரணம்
பூதலத்தில் லாதகற்றும் போற்று.

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Stomachic

Carminative

Stimulant

Diuretic

சடாமாஞ்சி

Botanical Name : *Nardostachys grandiflora* ,De.

Parts used : Root

Organoleptic Charecters

Taste - Inippu (Green) / Kaarppu (Dried)

Potency - Veppam

Pirivu - Kaarppu

பொது குணம்

குட்டஞ் சிலந்திவிடம் கோர புராண சுரம்
உட்டினங்கால் பேதிகண்ணோய் ஒட்டிருமல் - சொட்டிரத்த
பித்தமிரைப் பேகும் பெருங்கோரை என்றுரைக்குஞ்
சுத்தசடா மாஞ்சிலை சொல்.

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Stimulant

Diuretic

Expectorant

Antispasmodic

இலவங்கம்

Botanical Name : Syzygium aromaticum linn,

Parts used : bud

Organoleptic Charecters

Taste - Kaarppu

Potency - Veppam

Pirivu - Kaarppu

பொது குணம்

பித்த மயக்கம் பேதியொடு வாந்தியும்போம்
சுத்தவிரத் தக்கடுப்புந் தோன்றுமோ – மெத்த
இலவங்கங் கொண்டவருக் கேற் சுகமாகும்
மலமங்கே கட்டுமென வாழ்த்து.

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Carminative

Stomachic

Antispasmodic

சாதிக்காய்

Botanical Name : *Myristica fragrans,* houtt

Parts used : Fruit

Organoleptic Charecters

Taste - Thuvarppu, Kaarppu

Potency - Veppam

Pirivu - Kaarppu

பொது குணம்

தாது நட்டம் பேதி சருவாசி யஞ்சிர நோய்
ஓதுசுவா சங்காசம் உட்கிரணி – வேதோ
டிலக்காய் வரும்பிணிபோம் ஏற்றமயல் பித்தங்
குலக்கா யருந்துவர்க்குக் கூறு.

- அகத்தியர் குணவாகடம்

Therapeautic Actions

Stimulant

Carminative

Aromatic

Narcotic

Tonic

இலவங்கப்பட்டை

Botanical Name : Cinnamomum verum,presl

Parts used : bark

Organoleptic Charecters

Taste - Kaarppu, Inippu

Potency - Thatpam

Pirivu - Inippu

பொது குணம்

தாதுநட்டம் பேதி சருவவிஷம் ஆகியநோய்
பூதகிர கஞ்சிலந்திப் பூச்சிவிடஞ் - சாதிவிடம்
ஆட்டுமிரைப் போடிருமல் ஆகியநோய்க் கூட்டமற
ஓட்டுமில வங்கத் துரி.

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Stimulant

Carminative

Aphrodisiac

கரும்பு

Botanical Name : Saccharum officinarum.linn

Parts used : Cane Juice, Jaggery, Root

Organoleptic Charecters

Taste - Inippu

Potency - Seetham

Pirivu - Inippu

பொது குணம்

கரும்பிரத மெத்தவுண்டாற் காணுங் கபநோய்
விரும்பிவெல்ல மெத்தவுண்டால் மேகம் - தருமதுநீர்
உண்டா மதைமிதமா யுண்டால்மே கம்பித்தம்
மிண்டாமற் சாந்தமுறும் விள்.

-அகத்தியர் குணவாகடம்

Therapeautic Actions for Jaggery

Antiseptic

Demulcent

மரமஞ்சள்

Botanical Name : *Coscinium fenestratum*,(Gaertn)Colebr

Parts used : Tuber

Organoleptic Charecters

Taste - Kaippu

Potency - Veppam

Pirivu - Kaarppu

பொது குணம்

அழன்றகண மூலம் அருசி யுடனே
உழன்ற கணச்சுரமும் ஓடுஞ் - சுழன்றுள்ளே
வீறுசுர முந்தணியும் வீசுமர மஞ்சளுக்குத்
தேறு மொழியனமே! செப்பு.

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Febrifuge

Stomachic

Tonic

நொச்சிவேர்

Botanical Name : *Vitex negundo*,linn.

Parts used : Root

Organoleptic Charecters

Taste - Kaippu, Thuvarpu, Kaarppu

Potency - Veppam

Pirivu - Kaarppu

பொது குணம்

நோயா கலியை நொடிக்கு ளருந்தவெம்மை
யோயா மணாளு முயர்த்துதலுக் - காய
வந்தமுதல் நண்பாகி **வாதத்தை** யேயுறவாற்
சிந்துவா ரங்கலுந் தீ

-தேரன் வெண்பா

Therapeautic Actions for Root

Febrifuge

Expectorant

Diuretic

கண்டங்கத்திரிவேர்

Botanical Name : ***Solanum surattense*,Burm.f.**

Parts used **: Root**

Organoleptic Charecters

Taste - Kaarppu

Potency - Veppam

Pirivu - Kaarppu

பொது குணம்

காச சுவாசங் கதித்தஷய மந்தமனல்
வீசுசுரஞ் சன்னி விளைதோடம் - ஆசுறுங்கால்
இத்தரையு ணிற்கா எரிகாரஞ் சேர்க்கண்டங்
கத்திரியுண் டாமாகிற் காண்.

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Expectorant

Diuretic

Carminative

முருங்கைவேர்

Botanical Name : *Moringa oleifera* lam

Parts used : Root

Organoleptic Charecters

Taste - Kaippu, Thuvarppu, Inippu

Potency - Thatpam

Pirivu - Kaarppu

பொது குணம்

செறிமந்தம் வெப்பந் தெறிக்குந் தலைநோய்
வெறிமூர்ச்சை கண்ணோய் விலகும் - மறமே
நெருங்கையிலை யொத்தவிழி நேரிழையே! நல்ல
முருங்கை யிலையை மொழி.

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Acrid

Vosiceant

Antilithic

நீர்முள்ளிவேர்

Botanical Name : ***Hygrophila auriculata***

Parts used : **Root**

Organoleptic Charecters

Taste - Inippu, Sirukaippu

Potency - Thatpam

Pirivu - Inippu

பொது குணம்

விந்துவுமாம் தாதுவுமாம் மேகரோகந்தொலையும்
உந்து மதிசாரம் ஒழியுங்காண் - வந்துடலில்
ஏறியநீர் வீக்கம் இறங்கும் இளைப்புமறும்
கூறியநீர் முள்ளிவிதைக்கு.

-அகத்தியர் குணவாகடம்

Therapeautic Actions

Refrigerant

Diuretic

Demulcent

Tonic

ஆயில் பட்டை

Botanical name : Chukrasia tabularis

பொதுக்குணம்:

"ஆயிலுரியை யடிநீரு ணித்தியமெய்
யாயி லுரியையெனி லாவிமிசை யாயில்
வரிசையாக் கற்குநிகர் வல்லியட்டுண் மெய்க்கு
வரிசையாக் கத்தையுறு வை."

- தேரையர் யமகம்

வாதாதி முத்தோடங்களையும் பழைய சுரத்தையும் போக்கும்.

CHEMICAL CONSTITUENTS:

Haloptelin – A & B, friedelin, epifriedelinol, B – sitosterol, tannins, 2 – aminonapthaquinone.

Database, Vol – II, P – 172

ACTIONS:

Febrifuge

Counter –irritant

Pharmacological activities:

Anti – inflammatory, astringent, digestive.

Database, Vol – II, P – 171, 172

Uses:

They are used in inflammations, rheumatism.

Database, Vol – II, P – 171 – 172

பறங்கிப்பட்டை

Botanical Name : Smilax chinensis. Linn

Family : Liliaceae

Organoleptic characters:

- Suvai - Inippu
- Thanmai - Thatppam
- Pirivu –Iinippu

பொது குணம்

தாகம் பல**வாதந்** தாதுநட்டம் புண்பிளவை
மேகங் கடிகிரந்தி வீழ்மூலந்- தேகமுடன்
குட்டை பகந்தமேற் கொள்வமனம் போம்பறங்கிப்
பட்டையினை யுச்சரித்துப் பார்.

- தேரர் குணவாகடம்

Action

- Alterative
- Antisyphilitic
- Aphrodisac
- Depurative

Uses

- Relives Thirst,
- Vaatha diseases,
- Skin diseases,
- Veneral diseases,
- Haemorrhoids,
- Vomiting.

கொடிவேலி

Botanical Name : Plumbago indica. Linn

Family : Plumbaginaceae

Organoleptic Characters

- Suvai - Kaarppu
- Thanmai - Veppam
- Pirivu – Kaarppu

பொது குணம்

கட்டிவிர ணங்கிரந்தி கால்கள் அரையாப்புக்
கட்டிச்சூ லைவீக்கங் காழ்மூலம் -முட்டிரத்தக்
கட்டுநீ ரேற்றங் கனத்த பெருவயிறும்
அட்டுங் கொடிவேலி யாம்.

- அகத்தியர் குணவாகடம்

Actions

- Anti-periodic
- Diaphoretic

Uses

- Abscess,
- Ulcers,
- Vaathadisease,

- Dropsy,
- Pricking pain,
- Haemorrhoid,
- Sinusitis,
- Ascites,
- Contusion.

திப்பிலி மூலம்

Botanical name : Piper longum

Family : Zingeberaceae

Parts used : Root

ORGANOLEPTIC CHARACTERS

Taste : Kaarppu

Potency : Veppam

Division : Kaarppu

பொது குணம்

தாகபித்தஞ் சோகந் தணியாச் சுரமிருமல்
மேகங் குரற்கம்மல் மெய்க்கடுப்பும் - ஏகுங்காண்
திப்பிலிமூ லங்கண்டத் திப்பிலிய தாம்நறுக்குத்
திப்பிலியென் றேயொருக்காற் செப்பு.

-அகத்தியர் குணவாகடம்

THERAPEUTIC ACTION:

- Stomachic

USES:

It is used in the treatment of thrist, pitha diseases, toxic fever, cough, sore throat, pricking body pain and veneral diseases.

மிளகு

Botanical Name : Piper nigrum. Linn

Family : Piperaceae

Organoleptic characters

Taste : kaarppu

Potency : veppam

Pirivu : kaarppu

பொது குணம்

"சீதசுரம் பாண்டு சிலேத்மங் கிராணிகுன்மம்
வாதம் அருசிபித்தம் மாமூலம்-ஓடுசன்னி
யாசமபஸ் மாரம் அடன்மேகம் காசமிவை
நாசங் கறிமிளகினால்.

கோணுகின்ற பக்கவலி குய்யவுரோ கம்வாத
சோணிதங்க முத்திற்குள் தோன்றுநோய்-காணரிய
காதுநோய் மாதர்குன்மங் காமாலை மந்தமென்றீர்
ஏதுநோய் காயிருக்கில் ஈங்கு."

-தேரர் குணவாகடம்

Uses:

It is useful in treating cold, cough, fever, gastric ulcer, haemorrhoids, vaatha diseases, etc. It is an effective antidote.

Actions:

- Acrid
- Carminative
- Antiperiodic
- Rubifacient
- Stimulant
- Resolvent
- Antivaatha
- Antidote

Phytochemicals:

The principle ingredients of Piper nigrum are dimeric amide alkaloids with cyclohexene ring, nigramides, Piperine, piperidine,dimeric amide alkaloids with cyclobutane ring, nigramides P-S

கருஞ்சீரகம்

Botanical name : **Nigella sativa.Linn**

Family : **Ranunculaceae**

Parts used : **Seed**

Organoleptic Characters

Taste : Kaippu

Potency : Veppam

pirivu : Kaarppu

பொது குணம்

"கருஞ்சீ ரகத்தான் கரப்பனொடு பண்ணும்
வருஞ்சிராய்ப் பீநசமு மாற்றும் - அருந்தினால்
காய்ச்சல் தலைவலியுங் கண்வலியும் போமுலகில்
வாய்ச்ச மருந்தெனவே வை."

- அகத்தியர் குணவாகடம்

Therapeautic action:

- Carminative
- Diuretic
- Emmenagogue
- Galactogogue
- Anthelmintic
- Stomachic
- Parasiticide
- Emollient

Uses:

It cures eczema, wounds, sinusitis, fever, headache and painful eye

கடுக்காய்

Botanical Name	**:**	**Terminalia chebula. Retz.**
Family	**:**	**Combretaceae**
Part used	**:**	**Dry fruit.**

Organoleptic characters:

- Taste : Astringent,little hot and spicy sweet, sour, bitter.
- Potency : Hot
- Pirivu : Sweet

Phytochemicals:

- Chebulinic acid
- Gallic acid

பொது குணம்

“தாடை கழுத்தக்கி தாலு குறியிவிடப்

பீடை சிலிபதமுற் பேதிமுடம் - ஆடையெட்டாத்

தூலமிடி புண்**வாத** சோணிகா மாலையிரண்

டாலமிடி போம்வரிக்கா யால்”.

- அகத்தியர் குணவாகடம்

Activities:

- Astringent
- Laxative
- Fungicidal
- Bactericidal

Uses:

It is used in fever, cough, rheumatism, urinary tract diseases, and scorpion Stings.

தான்றிக்காய்

Botanical Name : Terminalia bellerica (Gaertn.)Roxb.

Family : Combretaceae

Parts used : Fruit, seed, leaf

Organoleptic characters:

Taste : Bitter

Potency : Hot

Pirivu : Sweet

Phytochemicals:

- Gallo-tanic acid
- Resin

பொது குணம்

“ஆணிப்பொன் மேனிக் கழகும் ஒளியுமிகும்

கோணிக்கொள் வாதபித்தக்கொள்கைபோம் - தானிக்காய்

கொண்டவர்க்கு மேகமறும் கூறா அனற்றணியும்

கண்டவர்க்கு **வாதம்போம்** காண்”.

- அகத்தியர் குணவாகடம்

Therapeutic actions:

- Astringent
- Laxative
- Tonic
- Expectorant

Uses:

It is used in cough, hoarseness of voice, eye diseases.

சுக்கு

Botanical name : Zingeber officinale,Rosc

Parts used : Dried rhizome

ORGANOLEPTIC CHARACTERS

Taste: Kaarppu

Potency: Veppam

Division: Kaarppu

பொது குணம்

சூலைமந்தம் நெஞ்செரிப்பு தோடமே பம்மழலை
மூலம் இரைப்பிருமல் மூக்குநீர் - வாலகப
தோடமதி சாரந் தொடர்வாத குன்மநீர்த்
தோடம்ஆ மம்போக்குஞ் சுக்கு.

- அகத்தியர் குணவாகடம்

THERAPEUTIC ACTIONS:

- Stimulant
- Carminative
- Stomachic

Chemical constituents:

Volatile oils (bisabolene, borneol, camphene, cineol, citral, citronellol, geranial, limonene, linalool, phellandrene, zingiberene, zingiberol). The aromatic principles are bisabolene and zingiberene; the pungent principles are gingerols and shogaols which are anti-nausea. Gingerols turn into shogaols when exposed to heat and air.

Other ingredients: Calcium, capsaicin, curcumin, high in iron and calcium, limonene, linoleic acid, magnesium, phosphorus, potassium, riboflavin, vitamin B6, vitamin C, zingibain, ginger has proteases (GP-I and GP-II) that are similar to digestive aids bromelain

வெள்ளுள்ளி

Botanical name : **Allium sativum.Linn**

Family : **Lilliaceae**

Parts used : **Tuber**

Organoleptic Characters

Taste: Kaarppu

Potency: Veppam

pirivu : Kaarppu

பொது குணம்

“சன்னியொடு வாதந் தலைநோவு தாள்வலி
மன்னிவரு நீர்க்கோவை வன்சீதம்- அன்னமே!
உள்ளுள்ளி கண்பாய் உளைமூல ரோகமும் போம்
வெள்ளுள்ளி தன்னால் வெருண்டு. “

அகத்தியர் குணவாகடம்

Therapeautic Action

- Carminative
- Stomachic
- Anthelmintic
- Diuretic
- Tonic
- Stimulant

Uses

It cures vaatha diseases, headache, jaw pain, sinusitis, delirium and piles.

வாய்விடங்கம்

Botanical name : Emblica ribes.Burm.f

Family : Myrsinaceae

Parts used : Seed

ORGANOLEPTIC CHARACTERS

Taste: Kaippu

Potency: Veppam

Division: Kaarppu

பொது குணம்

பாண்டுகுட்டம் குன்மம் பருந்தூல நோய்வாதந்
தீண்டு திரிவிடஞ் சிரந்துண்டம் - பூண்டமடி
நோய்விளங்கக் காட்டாத நுண்கிருமி யாசனப்புண்
வாய்விளங்கங் காட்டவிருமார்.

- அகத்தியர் குணவாகடம்

Therapeautic Action

Anthelmintic

Carminative

Stomachic

Stimulant

USES:

It is used in the treatment of anaemia, skin diseases, peptic ulcer, obesity, poisonous bites, vaatha diseases, diseases of the head and diseases caused by micro organisms like bacteria, virus etc.,

Studies already done in Vaai Vidangam:

Anti oxidant activity and Neuroprotective activity:

Chronic treatment with ethanolic *E.ribes* extract enhanced the antioxidant defense against MCAO- induced focal cerebral ischemia in rats and exhibited neuroprotective activity (Ansari et al., 2008). *[Ref: Article - Phytochemical and Pharmacological Review of Adhatoda zeylanica and Embelia ribes]*

வசம்பு

Botanical Name : Acorus calamus, Linn.

Family : Araceae.

Parts used : Root tuber.

Organoleptic Charecters

Taste : Kaarppu.

Potency : Veppam.

Pirivu : Kaarppu.

பொது குணம்

" பாம்பாதி நஞ்சற் புதப்புண் வலிவிடபாகங் குன்மம்
சும்பா ரிரத்தபித் தம்முக நாற்றம்வன் **சூலை**சன்னி
வீம்பாம்பை காசம் பிலீகஞ் சிலிபதம் வீறிருமல்
தாம்பாங் கிருமி யிவையேகு மாசிவ சம்பினையே."

- தேரர் குணவாகடம்

Therapeautic Actions

- Stimulant
- Stomachic
- Antiperiodic
- Carminative
- Nauseant
- Emetic
- Disinfectant
- Germicide

Uses

It cures vaatha diseases, peptic ulcer, hypertention, delirium, cough, liver diseases, hook worm infestation, fillariasis, all types of toxins including snake bite and extreme painful condition.

மஞ்சள்

Botanical name : Curcuma longa.Linn

Family : Zingiberaceae

Organoleptic characters

- Suvai - Kaarppu, Kaippu
- Thanmai - Veppam
- Pirivu – Kaarppu

பொது குணம்

தலைவலி நீரேற்றஞ் சளையாத மேகம்

உலைவுதரு பீனசத்தி னூடே- வலிசுரப்பு

விஞ்சு கடிவிடமும் வீறுவிர ணங்களும்போம்

மஞ்சள் கிழங்குக்கு மால்

Action

- Carminative
- Hepatic tonic
- Stimulant

Uses

- It cures poisonous bites,
- Headache,
- Sinusitis,
- Leucorrhoea,
- Tridhodam,
- Ulcer.

எருக்கு

Botanical name : Calotropisgigantea (Linn) R.Br

Family : Asclepidaceae

Organoleptic character

- Suvai - Kaippu, Kaaram, Mathuram
- Thanmai - Veppam
- Pirivu - Kaaram

பொது குணம்

எலிவிடங் குட்டமைய மேறு கிருமி

வலிசூலை வாயுவிட மந்தம் -மலபந்தம்

எல்லா மகலு மெருக்கிலை யைக்கண்டால்

வில்லார் நுதலே! விளம்பு.

\- அகத்தியர் குணவாகடம்

Action

- Anthilmentic
- Alterative
- Laxative
- Stimulant.

Uses

- Cures Leprosy,
- Worm infestations,
- Swelling of Joints,
- Vaatha disease,
- Constipation,
- Antidote for Rat bite, Snake poison.

நல்லெண்ணெய்

Botanical name : Sesamum indicum, Linn.

Family : Papillonaceae.

Parts used : Seed Oil.

ORGANOLEPTIC CHARACTERS

Taste: kaarppu

Potency: Veppam

Division: kaarppu

பொது குணம்

புத்திநயனங் குளிர்ச்சி பூரிப்பு மெய்புளகஞ்
சத்துவங் கந்தி தனியிளமை – மெத்தவுண்டாம்
கண்ணோய் செவி நோய் கபாலவழல் காசநோய்
புண்ணோய்போ மெண்ணெய்யாற் போற்று.

- அகத்தியர் குணவாகடம்

THERAPEUTIC ACTIONS:

- Demulcent
- Emollient
- Nutritive
- Anti-inflammatory

Oil extracted from sesame seed is used as a coolant and to cure skin ailments, eye diseases, ear ache, ulcers etc.

USES:

- The oil from the nutrient rich seed is popular in alternative medicine Ancient Indian medical system perceives sesame oil to pacify stress related symptoms.
- Sesame oil is a source of vitamin E.Vitamin E is an anti-oxidant and is said to lower cholesterol.
- As with most plant based condiments; sesame oil contains magnesium, copper, calcium, iron, zinc, and vitamin B6.

பசும்பால்

COW'S MILK

LACTUS, MILK AND MILK PRODUCTS

General Properties:

பாலர் கிழவர் பழஞ்சுரத்தோர் புண்ணாளி
சூலையர் மேகத்தோர் துர்பலத்தோர் ஏலுமிவர்
எல்லாக்கு மாகும் இளைத்தவர்க்குஞ் சாதகமாய்
நல்லாய் பசுவின்பால் நாட்டு.

- குணபாடம் தாது ஜீவ வகுப்பு.

It is a good nutritive supplement for new born, young adults and older adults. It cures vaatha diseases, veneral diseases, and also useful in the treatment of emaciated individuals.

Other aspects about milk:

Milk is a translucent white liquid produced by the mammary glands of mammals, a pH ranging from 6.4 to 6.8, making it slightly acidic. Cow's milk is the primary source of nutrition for young mammals before they are able to digest other types of food. Cow's milk contains, on an average, 3.4% protein, 3.6% fat, and 4.6% lactose, 0.7% minerals and supplies 66 kcal of energy per 100 grams. The largest structures in the fluid portion of the milk are casein protein micelles

Nutrients in a cup of milk(250 ml):

Nutrients (either naturally or through fortification) including:

- Biotin
- Pantothenic acid

- Iodine
- Potassium
- Magnesium
- Selenium
- Thiamine
- Vitamin A
- Vitamin B_{12}
- Riboflavin
- Vitamin D
- Vitamin K

chathikai

Vaal Milagu

Lavangapathiri

Amukara

Thalisapathiri

Nilapanai

Vasambu

Perarathai

Lavangapattai

Nelli Vatral

Sangu vaer

Vai Vidangam

Sittrarathai

Krosaani Omam

kadukkai

Milagu

Omam

Thippili moolam

Thandrikai

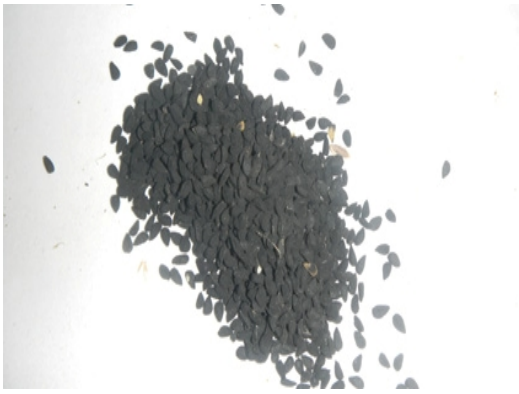
Kirambu

Kasa Kasa

Mara Manjal

Thippili

Sukku



Karunjeeragam

Thipilamoolam

Jada Manjil

Mulli

Sevviyam

Aayilpattai

Parangipattai

Notchiver

Erukan Ver

Kothamalli Vidhai

Murungai Ver

Ghee

Manjal

Sugar

Milk

STANDARD OPERATING PROCEDURE

PARANGIPATTAI RASAYANAM AND LASUNATHY THYLAM

SOURCE OF RAW DRUGS:

The required raw drugs for preparation of **PARANGIPATTAI RASAYANAM AND LASUNATHY THYLAM** are purchased from a well reputed country shop.The raw drugs are authenticated by the medicinal department of NIS. The raw drugs are purified and medicine is prepared in Gunapadam lab of National Institute of Siddha. The prepared medicine is again authendicated by head of the department of gunapadam

1. PARANGIPATTAI RASAYANAM

INGREDIENTS

Parangipattai – *Smilax china* .Linn – 16 balam (560 grms)

Kodiveli - *Plumbago zeylanica*

Sanguver – *Clitoria ternatea* ,linn.

Amukaraa – *Withania somnifera* (linn) dunal

Nilappanai – *Curculigo orchiodes* .gaertn

Thipilimoolam - Root of *Piper longum*, Linn.

Thalisapathiri - – *Abies spectabilis* (d.don) mirb

Lavangapathiri –*Cinnamomum tamala* (buch,hum) nees.

Milagu - *Piper nigrum*,Linn.

Thipili - *Piper longum*,Linn.

Omam – *Carum capticum* benth andhook.f.

Kurosaaniomam – *Hyoscyamus niger* Linn

Kaurunjeeragam – *Nigella sativa*,Linn.

Sitharathai - *Alpinia officinarum* (Linn) wild

Perarathai - *Alpinia galanga* (Linn) wild

Kadukkai - *Terminalia chebula*, Retz

Thaanrikai - *Terminalia bellarica.(*Gaertn) Roxb

Nellimulli - *Phyllanthus emblica*,Linn

Sevviyam - Root of *Piper nigrum*, Linn.

Vaalmilagu – *Piper cubeba* .lin f

Kozhtam - *Costus specius*,(Koenig ex Retz) J.E.Smith

Kasakasa – *Papaver somniferum* Linn.

Malli – *Coriandrum sativum* ,Linn.

Jadaamanjil – *Nardostachys grandiflora* ,dc.

Kiraambu – *Syzygium aromaticum* (Linn)merrill and perry

Saathikaai – *Myristica fragrans* houtt

Lavangapattai – *Cinnamomum verum* , presl

Sukku - *Zingiber officinale*, Rose.

Above all the drug each	-	½ balam (17.5 gms)
Ghee	-	2 padi (4litre)
Sugar	-	2 saer (560 gms)
Cow's Milk	-	sufficient amount
Honey	-	1padi (2 litres)

METHOD OF PURIFICATION:

Plumbago zeylanica : Root bark is powdered and boiled in milk for 3 hours.

Piper longum root : The nodes are plucked and cleaned from the root and dried

Piper nigrum : The fruits are soaked in sour butter milk for three hours, then dried and collected.

Piper longum : It is soaked in lemon juice

Zingiber officinalis : (dried Ginger) and limestone are taken in a ratio 1:2 and fried for 3 hrs, washed and the outer skin is removed and collected.

Carum capticum fruit : It is soaked in limestone water and dried.

Hyoscyamus niger : The dust particles are removed and collected.

Nigella sativa : The drug is fried to golden brown colour and collected.

Piper cubeba : The pedicle is removed and collected.

Costus speciosus root : It is cleaned and dried.

Coriandrum sativum : It is wrapped with a piece of cloth and subjected to steam bath with hot water.

Terminalia chebula : It is soaked in rice water, dried and taken after removing the seeds.

Embilica officinalis : It is boiled in milk and the seeds are removed.

Terminalia bellarica : It is soaked in the root juice of Clerodendrum phlomoidis for three hours and the seeds are removed .

Acorus calamus : It is burnt in flame and collected.

Roots: (General method)

a. Wash the roots with running water and dry it.

Barks: (General method)

b. Clean the barks with cotton cloth and remove the peel with small knife and dry it.

METHOD OF PREPARTION:

The above mentioned drugs are purified properly as said above and they are dried in shade and made into fine powder.

The above mixture content is mixed with ghee, sugar, honey and then stored in a suitable container.

LASUNATHY THYLAM

INGREDIENTS:

Vellulli	–	A*llium sativum*, linn.	-	1 padi (2litr)
Arathai	–	*Alpinia galanga* (linn) wild	-	1/2 palam (17.5gms)
Vaaivilangam	–	*Embelia ribes*,F.Burm	-	1/2 palam (17.5gms)
Vasambu	–	*Acorus calamus*. Linn	-	1 /2palam (17.5gms)
Sevviyam	-	Root of *Piper nigrum*, Linn.	-	1 palam (35gms)
Manjal	-	*Curcuma longa*,Linn.	-	1 palam (35gms)
Maramanjal	-	*Coscinium fenestratum*,(Gaertn)Colebr-		1 palam (35gms)
Milagu	-	*Piper nigrum*,Linn	-	3 palam (105gms)
Thipilimoolam	-	Root of *Piper longum*, Linn.	-	3 palam (105gms)
Murungai	–	Root of *Moringa oleifera* lam.	-	1/4 palam (8.75gms)

Nochi	–	Root of *Vitex negundo*,linn.	- 1/4 palam (8.75gms)
Kandankathiri	–	Root of *Solanum surattense*,Burn.f.	- 1/4 palam (8.75gms)
Mulli	–	Root of *Hygrophila auriculata*	- 1/4 palam (8.75gms)
Erukkampoo	–	Root of *Calotropis gigantea* (linn)R.Br	- 1/4 palam (8.75gms)
Aayilpattai	–	Root of *Chukrasia tabularis*,a.juss	- 1/4 palam (8.75gms)
Kodiveli	–	Root of *Plumbago Zeylanica* .linn	- 1/4 palam (8.75gms)
Gingelly oil	-	4 padi (8 litr)	

Method of preparation of LASUNATHY THYLAM

All the ingredients are grinded and mixed with gingely oil and heated up to the consistency of oil (thaila patham)

DRUG STORAGE

The trial drug **PARANGIPATTAI RASAYANAM (Internal medicine**) is stored in clean and dry glass bottles and **LASUNATHY THYLAM (External medicine)** is stored in clean and dry narrow mouthed bottles.

DISPENSING

Parangipattai Rasayanam given in sachets (24pakets are given in each visit,with a single paket containing 6gms each) and oil is given in glass bottles.

TRIAL DRUGS :

1. PARANGIPATTAI RASAYANAM (INTERNAL)

DOSAGE : Pakkalavu -6 gms, twice a day

ADJUVANT : MILK

COURSE : 24 DAYS

Diet Advice (pathiyam) : Avoid Tamarind,Smoking,Sexual contact

2. LASUNATHY THYLAM (External medicine)

DOSAGE: Sufficient quantity (50 ml apply)

method of drug administration: Applied externally over the affected part.

CLINICAL STUDY

STUDY DESIGN and CONDUCT OF STUDY:

Study type : An open clinical trial

Study place : OPD.and IPD of Ayothidass pandithar hospital ,

National institute of Siddha,

Tambaram sanatorium, Chennai-47.

Study period : 12 months

Sample size : 40 patients

SUBJECT SELECTION

As and when patients reporting at OPD of Ayothidass Pandithar hospital with symptoms of inclusion criteria will be subjected to screening test and documented using screening proforma.

INCLUSION CRITERIA

- Age :25-65Yrs
- Sex : Both male and female
- Patients having symptoms of Acute shoulder joint pain, benumbed feeling and wasting in the shoulder region and arms, restricted movements of upper limb, loss of abduction and forward flexion followed by stiffness of the shoulder joint and dizziness.
- Patients who are willing to give radiological investigation and provide blood for lab investigation.
- Patient willing to sign the informed consent stating that he/she will conscientiously stick to the treatment during 24days but can opt out of the trial of his/her own conscious discretion.

EXCLUSION CRITERIA

- Rheumatoid arthritis
- Cardiac disease
- Renal disease
- Hypertension
- Diabetes mellitus
- Use of narcotic drugs
- Pregnancy and lactation
- Any other serious illness
- Cervical spondylosis

WITHDRAWAL CRITERIA

- Intolerance to the drug and development of serious adverse reactions during drug trial.
- Poor patient compliance and defaulters.
- Patient turned unwilling to continue in the course of clinical trial.
- Occurrence of any serious illness

TESTS AND ASSESMENTS

A. Clinical assessment

   Siddha assesment

B. Laboratory Investigations

   1. Routine investigations
   2. Specific investigations

A. CLINICAL ASSESMENT

Acute shoulder joint pain

Benumbed feeling

Wasting in the shoulder region and arms

Restricted movement of the upper limb

Loss of abduction

Loss of forward flexion

Stiffness of the shoulder joint

Dizziness

SIDDHA ASSESSMENT

Thinai (Living Place):

Paruvakaalam (Season):

Gnanenthiriyam and Kanmenthiriyam:

1. Vaai (Buccal Cavity)
2. Kaal (lower limb)
3. Kai (upper limb)
4. Eruvaai (anorectal region)
5. Karuvaai (uro- genital region)

Ezhu Udal Kattugal:

1. Saram
2. Senneer
3. Uoon
4. Kozhuppu
5. Enbu
6. Moolai
7. Sukkilam/Suronitham

Enn Vagai Thervu (Eight types of Examination):

1. Nadi (Pulse perception)
2. Naa (Tongue)
3. Niram (Complexion)
4. Mozhi (Voice)
5. Vizhi (Eyes)
6. Parisam (Palpatory perception)
7. Malam (Bowel habits)
8. Moothiram (Urine){Neerkuriand Neikuri}

1. ROUTINE INVESTIGATION

BLOOD

- Hb (gm/dl)
- Total WBC Count(Cells/cumm)
- DC- Polymorphs(%)
- Lymphocytes (%) –
- Eosinophils(%) –
- Monocytes(%) –
- Basophils (%)–
- Total RBC count(Million cells / cumm)-
- ESR(mm/hr)-
- Blood glucose(mg/dl): (Fasting)

  : (Post – prandial)-

LIPID PROFILE

- Serum cholesterol(mg/dl)-
- HDL cholesterol(mg/dl)-
- LDL cholesterol(mg/dl)-
- VLDL cholesterol(mg/dl)-
- Serum triglycerides (mg/dl)-

RENAL FUNCTION TESTS

- Blood urea (mg/dl)-
- Serum Creatinine (mg/dl)-
- Uric acid (mg/dl)-

LIVER FUNCTION TESTS

- Serum total bilirubin (mg/dl) -
- Serum Direct bilirubin (mg/dl) -
- Serum Indirect bilirubin (mg/dl) -
- Serum Alkaline phosphotases (u/l) -
- SGOT (u/l) -
- SGPT (u/l) -
- Serum Total Protein (g/dl) -
- Serum Albumine(g/dl) -
- Serum Globulin(g/dl) -
- Serum Calcium (mg/dl) -
- Serum Phosphorous (mg/dl) -

URINE

- Urine sugar (F)and(PP)
- Albumin
- Deposits

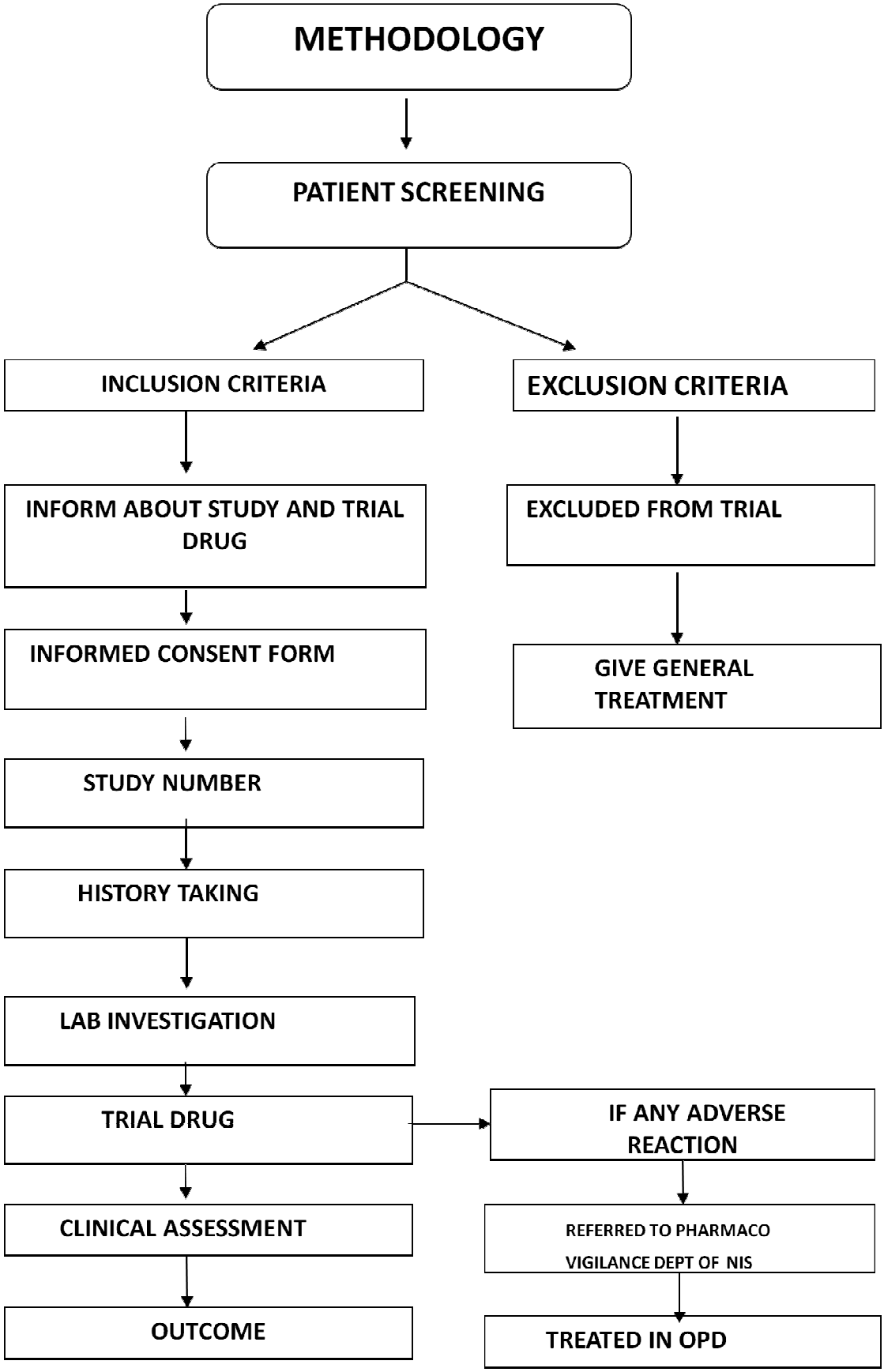
MOTION

- Ova
- Cyst
- Occult blood

2. SPECIFIC INVESTGATIONS

- X - Ray of affected Shoulder joints (AP and supero - inferior view of shoulder joint)
- ECG

3. OTHER INVESTGATIONS CRP , RA factor


METHODOLOGY
PATIENT SCREENING
INCLUSION CRITERIA
EXCLUSION CRITERIA
INFORM ABOUT STUDY AND TRIAL DRUG
EXCLUDED FROM TRIAL
INFORMED CONSENT FORM
GIVE GENERAL TREATMENT
STUDY NUMBER
HISTORY TAKING
LAB INVESTIGATION
TRIAL DRUG
IF ANY ADVERSE REACTION
CLINICAL ASSESSMENT
REFERRED TO PHARMACO VIGILANCE DEPT OF NIS
OUTCOME
TREATED IN OPD

STUDY ENROLLMENT

- Patients reporting at NIS OPD with the clinical symptoms of Acute Shoulder joint pain, benumbed feeling and wasting in the shoulder region and arms, restricted movements of upper limb, loss of abduction and forward flexion followed by stiffness of the shoulder joint and dizziness.etc will be examined clinically for enrolling in the study based on the inclusion and exclusion criteria.
- The patients who are to be enrolled in the study will be informed (Form IV- B) about the study, trial drug, possible outcomes and the objectives of the study in own language and terms understandable to them.
- After ascertaining the patient's willingness, informed consent will be obtained in the consent form (Form IV- C).
- All these patients will be given unique registration card in which patients' Registration number of the study, Address, Phone number and Doctors phone number etc. will be given, so as to report easily should any adverse reactions arise.
- Complete clinical history, complaints and duration, examination findings-- all will be recorded in the prescribed Proforma in the history and clinical assessment forms separately. Screening Form- I will be filled up; Form I-A, Form –II , Form –II-A and Form –III will be used for recording the patients' history, clinical examination of symptoms and signs and laboratory investigations respectively.
- Patients will be advised to take the trial drug and appropriate dietary advice (Form IV-D) would be given according to the patients' perfect understanding.

CONDUCT OF THE STUDY:

Treatment commences with purgation by giving Agasthiar Kuzhambu - 130 mg od (at early morning) with ginger juice

The trial drug **PARANGIPATTAI RASAYANAM** (Internal) is given 6 gms twice a day with milk for 24 days continuously.

The trial drug **LASUNATHY THYLUM (**External**)** is given continuously for 24 days for external application

For OP patients, they should visit the hospital once in 12 days. At each clinical visit clinical assessment is done and prognosis is noted.

For IP patient's clinical assessment and prognosis is noted daily.

Laboratory investigations are done 0th day and 24 th day of the trial for both OP and IP patients .

For IP patients, who is not in a situation to stay in the hospital for a long time is advised to attend the OPD for the continuation of the treatment. After the end of the treatment also, the patient is advised to visit the OPD for another 2months for follow-up. If any trial patient who fails to collect the trial drug on the prescribed day but wants to continue in the trial from the next day or two, he/ she will be allowed, but defaulters of one week and more will not be allowed to continue and be withdrawn from the study with fresh case being included.

DATA MANAGEMENT

- After enrolling the patient in the study, a separate file for each patient will be opened and all forms will be filed in the file. Study No. and Patient No. will be entered on the top of file for easy identification. Whenever study patient visits OPD during the study period, the respective patient file will be taken and necessary recordings will be made at the assessment form or other suitable form.
- The screening forms will be filed separately.
- The Data recordings will be monitored for completion and adverse event by HOD and Sr. Research Officer (Statistics). All forms will be further scrutinized in presence of Investigators by Sr. Research Officer (Statistics) for logical errors and incompleteness of data to avoid any bias. No modification in the results is permitted for unbiased reports.

STATISTICAL ANALYSIS:

All collected data will be entered into the computer and manually cross-checked the correctness of the data entry. The clinical symptoms and pain scale will be analysed by comparing the two point of data (before and after treatment) paired test and chi-square test will be employed to study the efficacy of treatment. Futher, the effect of age and sex will also be analyzed.

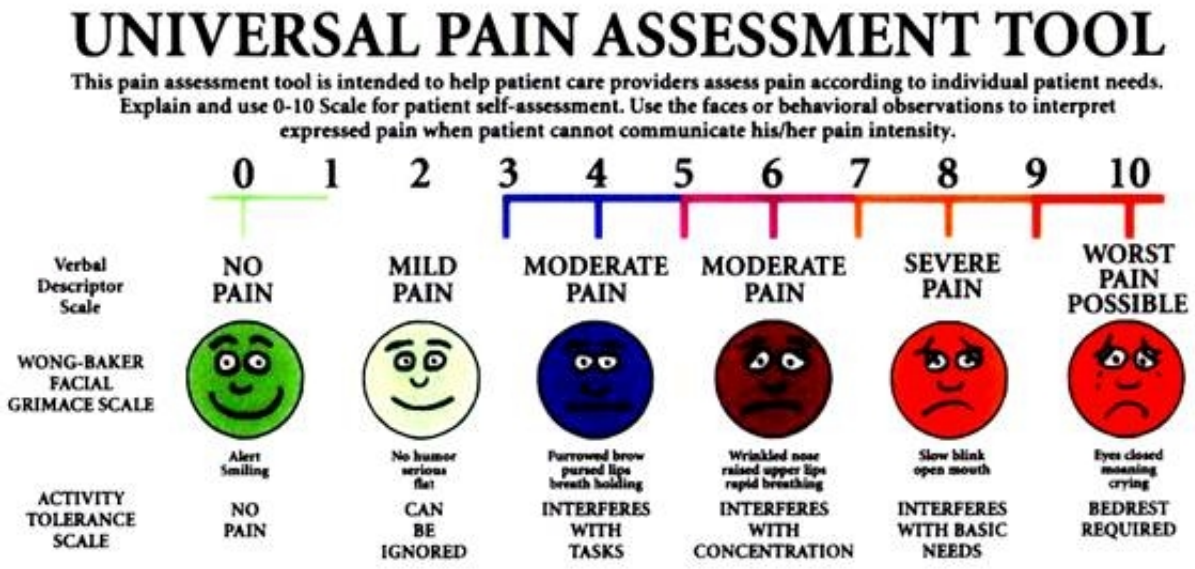
OUTCOME

PRIMARY OUTCOME

Outcome is pain mainly assessed by **Universal Pain Assessment Tool -Numeric Rating Scale before** and after treatment

PAIN ASSESMENT:

UNIVERSAL PAIN ASSESMENT TOOL



Numeric Rating Scale (0-10) for pain:

0-1	No pain
2	Mild pain (can be ignored)
3-5	Moderate pain (interferes with tasks)
5-7	Moderate pain (interferes with concentration)
7-9	severe pain (interferes with basic needs)
10	Worst pain (bed rest required)

SECONDARY OUTCOME:

1. Reduction in other symptoms
2. Siddha co factors
3. Changes in investigation parameter

ADVERSE EFFECT/SERIOUS EFFECT MANAGEMENT:

If the trial patient develops any adverse reaction. It will be recoreded in adverse reaction form, and he/she would be immediately referred to member of pharmacovigilance department of NIS and proper management will be given by the investigator in OPD of National institute of siddha.

ETHICAL ISSUES

1. Informed consent will be obtained from the patient explaining in the understandable language to the patient.
2. After the consent of the patient (through consent form) they will be enrolled in the study.
3. Treatment would be provided free of cost.
4. No other external or internal medicines will be used. There will be no infringement on the rights of patient.

5. To prevent any infection, while collecting blood sample from the patient, only disposable syringes, disposable gloves, with proper sterilization of lab equipments will be used.
6. The data collected from the patient will be kept confidentially. The patient will be informed about the diagnosis, treatment and follow-up.
7. In conditions of treatment failure, adverse reactions, patients will be given alternative treatment at the National Institute of Siddha with full care throughout the end.

ASSESSMENT FORM

FORM I	SCREENING AND SELECTION PROFORMA
FORM I A	A HISTORY PROFORMA ON ENROLLMENT
FORM ll	CLINICAL ASSESSMENT ON ENROLLMENT
FORM ll A	CLINICAL ASSESSMENT DURING AND AFTER TRIAL
FORM lll	LABORATORY INVESTIGATION ON ENROLLMENT AND CONCLUSION OF TRIAL
FORM IV A	DRUG COMPLIANCE FORM
FORM IV B	INFORMATION SHEET
FORM IV C	CONSENT FORM
FORM IV D	DIETARY ADVICE FORM
FORM IV E	WITHDRAWAL FORM
FORM IV F	ADVERSE REACTION FORM

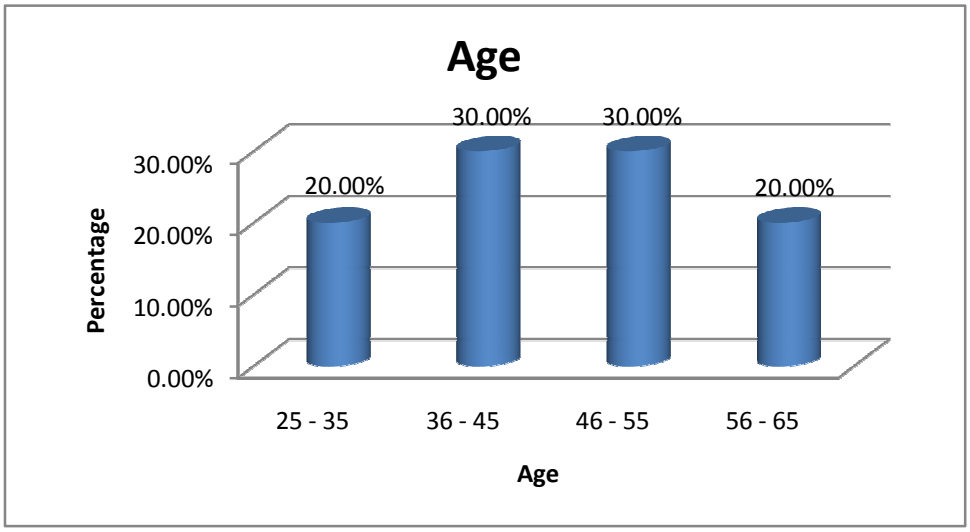
OBSERVATIONS AND RESULTS

Results of the study were observed with respect to the following criteria;

1. Age distribution
2. Gender distribution
3. Occupation
4. Paruva Kaalam (Seasonal changes)
5. Diet
6. Thegi
7. Thinai
8. Duration of Illness
9. Socio economic status
10. Derangement of Vaatham
11. Derangement of Pitham
12. Derangement of Kabam
13. Derangement of Envagai Thervugal
14. Naadi
15. Neerkuri
16. Neikuri analysis
17. Derangement of Udal thathukkal
18. Gunam
19. Derangement of Gnanenthiriyam
20. Derangement of Kanmenthiriyam
21. Kosangal
22. Clinical features
23. Result of treatment
24. Lab investigation

1. AGE:

AGE	No. of Patients	PERCENTAGE
25 - 35	8	20.00%
36 - 45	12	30.00%
46 - 55	12	30.00%
56 - 65	8	20.00%
TOTAL	40	100%

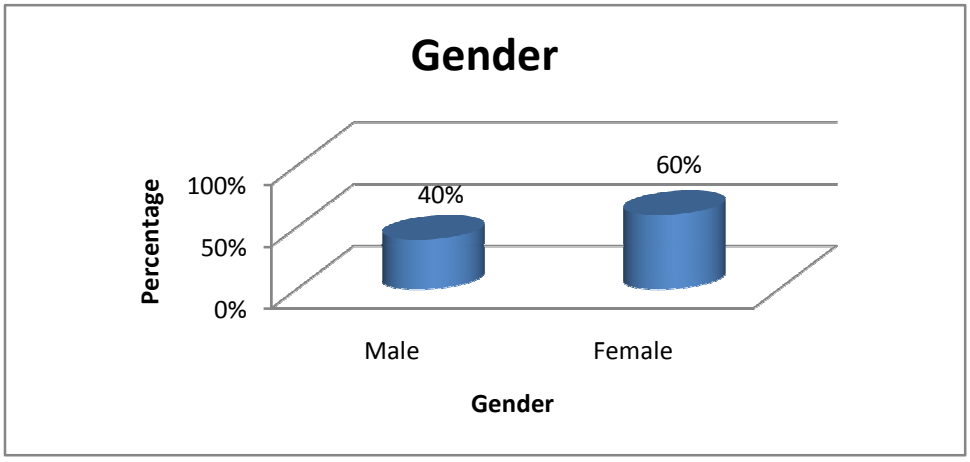


Inference:

Among the 40 patients admitted for the trial, occurrence of the disease was found to be higher (30%) in the age group between 35-45 years.

2. GENDER:

GENDER	No. of patients	PERCENTAGE
Male	16	40%
Female	24	60%
Total	40	100%

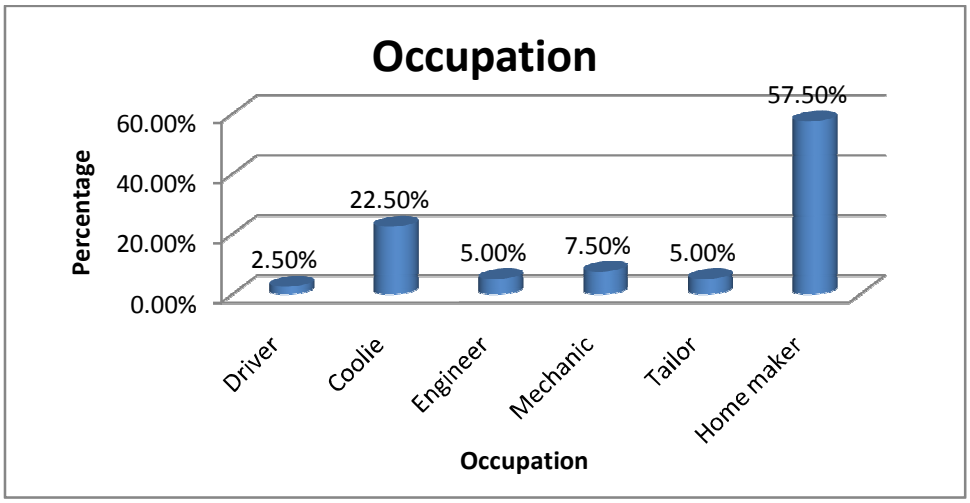


Inference:

Among the 40 patients admitted for the trial, the occurrence of the disease was found to be higher in females (24 cases) (60%)

3. OCCUPATION:

OCCUPATION	No. of Patients	PERCENTAGE
Driver	1	2.50%
Coolie	9	22.50%
Engineer	2	5.00%
Mechanic	3	7.50%
Tailor	2	5.00%
Home maker	23	57.50%
Total	40	100%

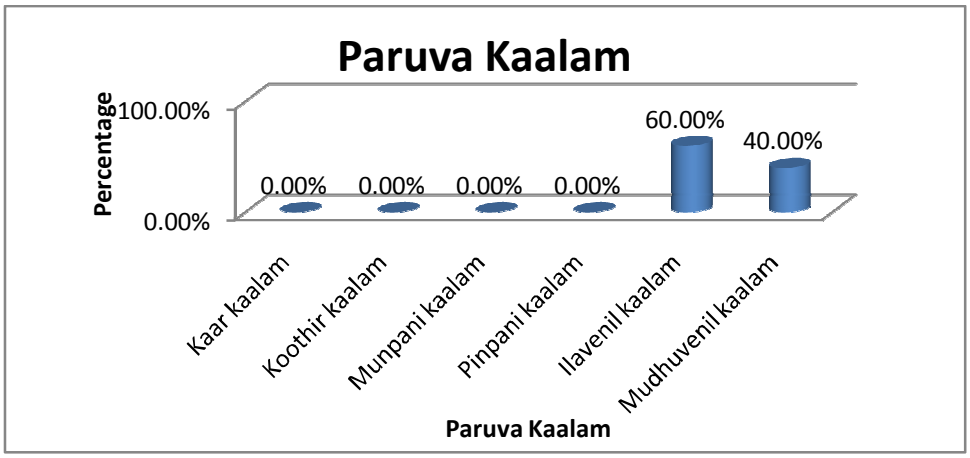


Inference:

23 patients affected were Home makers (57.50%), 9(22.5%) patients were Coolie workers, 3(7.5%) patients were Mechanic, 2(5%) Tailors and one Engineer,1 (2.5%)patients were Driver.

4. PARUVA KAALAM (SEASON) :

PARUVA KAALAM	No. of Patients	PERCENTAGE
Kaar kaalam	0	0.00%
Koothir kaalam	0	0.00%
Munpani kaalam	0	0.00%
Pinpani kaalam	0	0.00%
Ilavenil kaalam	24	60.00%
Mudhuvenil kaalam	16	40.00%
Total	40	100%

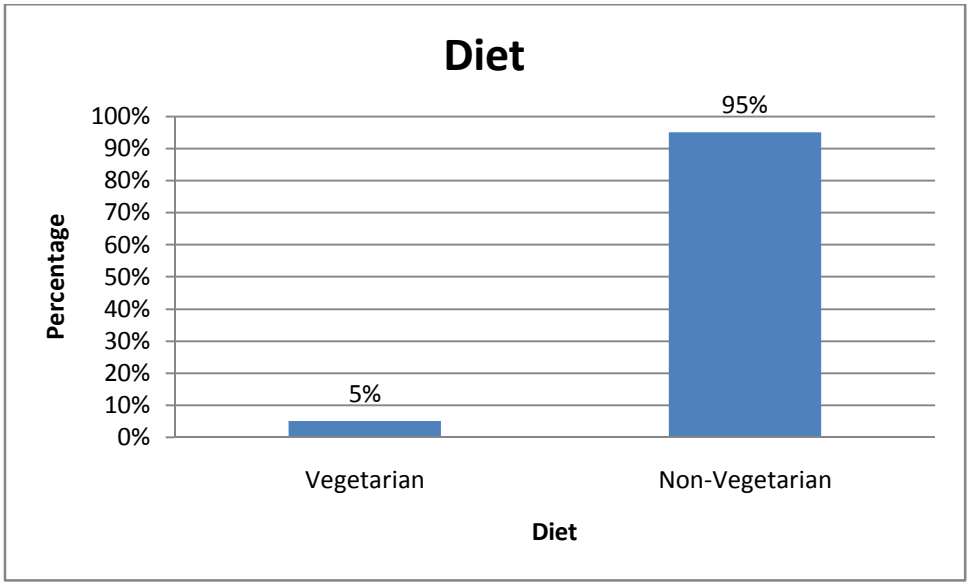


Inference:

Incidence of the disease is higher in Ilavenil kalam (60%) than in Mudhuvenil kalam (40%).

5. DIET

DIET	No. of Patients	PERCENTAGE
Vegetarian	2	5%
Non-Vegetarian	38	95%
Total	40	100%

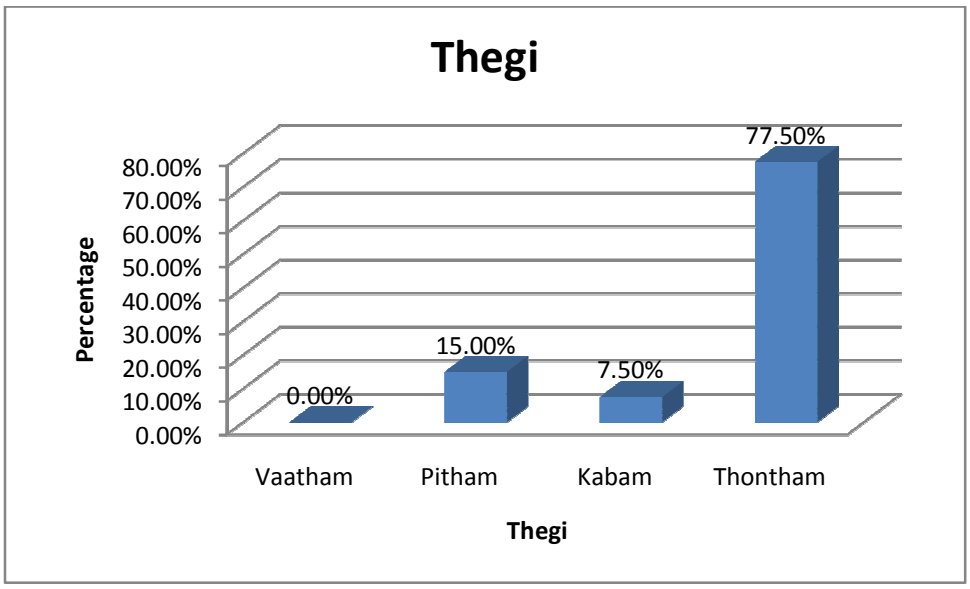


Inference:

Among 40 patients, 2 patients (5%) were Vegetarians and 38 patients (95%) were Non-vegetarians.

6. THEGI:

Thegi	No. of Patients	PERCENTAGE
Vaatham	0	0.00%
Pitham	6	15.00%
Kabam	3	7.50%
Thontham	31	77.50%
Total	40	100%

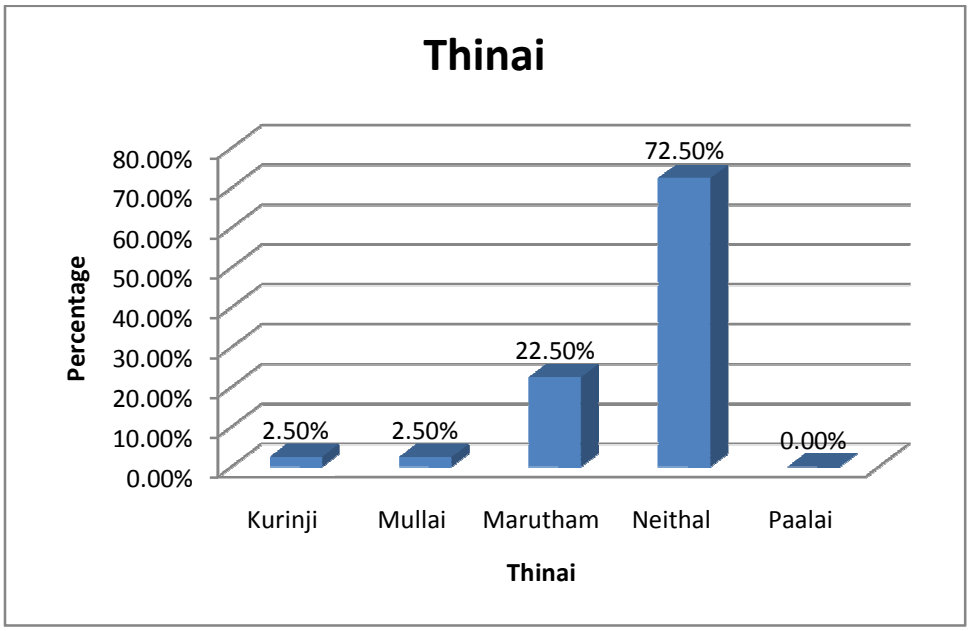


Inference:

Among 40 patients, 31 patients (77.50%) had Thontha udal, 6 patients (15%) had Pitha udal and 3 patients (7.5%) had Kaba udal.

7. THINAI:

THINAI	No. of Patients	PERCENTAGE
Kurinji	1	2.50%
Mullai	1	2.50%
Marutham	9	22.50%
Neithal	29	72.50%
Paalai	0	0.00%
Total	40	100%

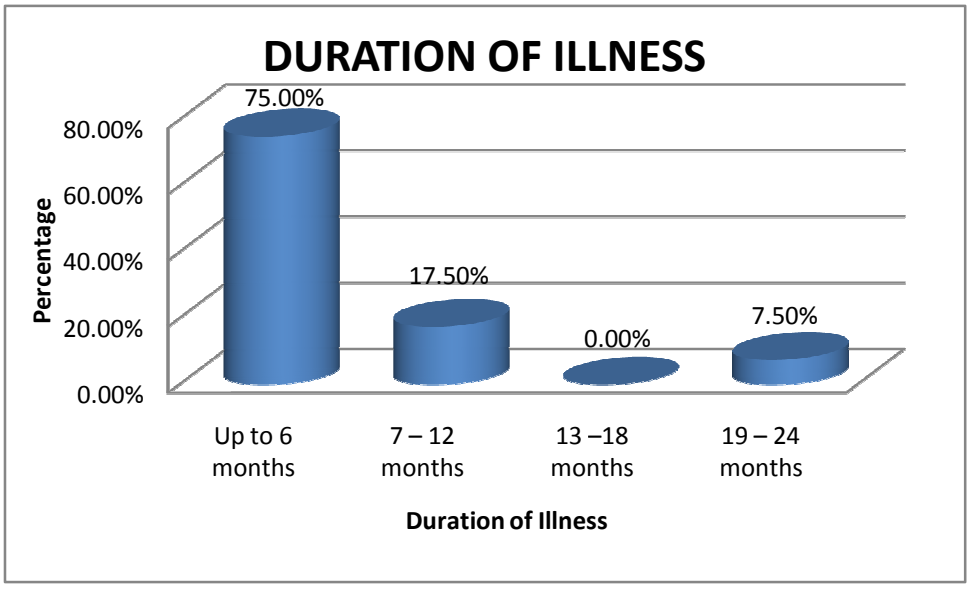


Inference:

72.5% of patients were reported from Neithal nilam, 22.5% of patients were reported from Marutham nilam and 2.5 % were from Kurinji and Mullai nilam.

8. DURATION OF ILLNESS:

DURATION OF ILLNESS	No. of Patients	PERCENTAGE
Up to 6 months	30	75.00%
7 – 12 months	7	17.50%
13 –18 months	0	0.00%
19 – 24 months	3	7.50%
Total	40	100%

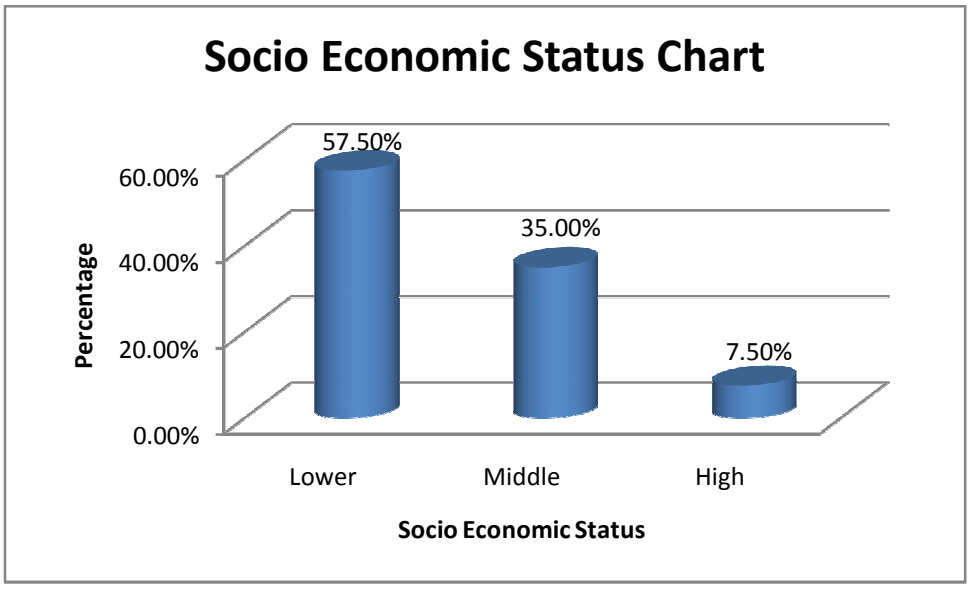


Inference:

Among 40 patients, 30 (75%) patients were suffering from this illness for up to 6 months, 7 patients (17.50%) were affected between 7 to 12 months and 3 patients (7.50%) were affected between 19 to 24 months.

9. SOCIO ECONOMIC STATUS:

SOCIO ECONOMIC STATUS	No. of Patients	PERCENTAGE
Lower	23	57.50%
Middle	14	35.00%
High	3	7.50%
Total	40	100%

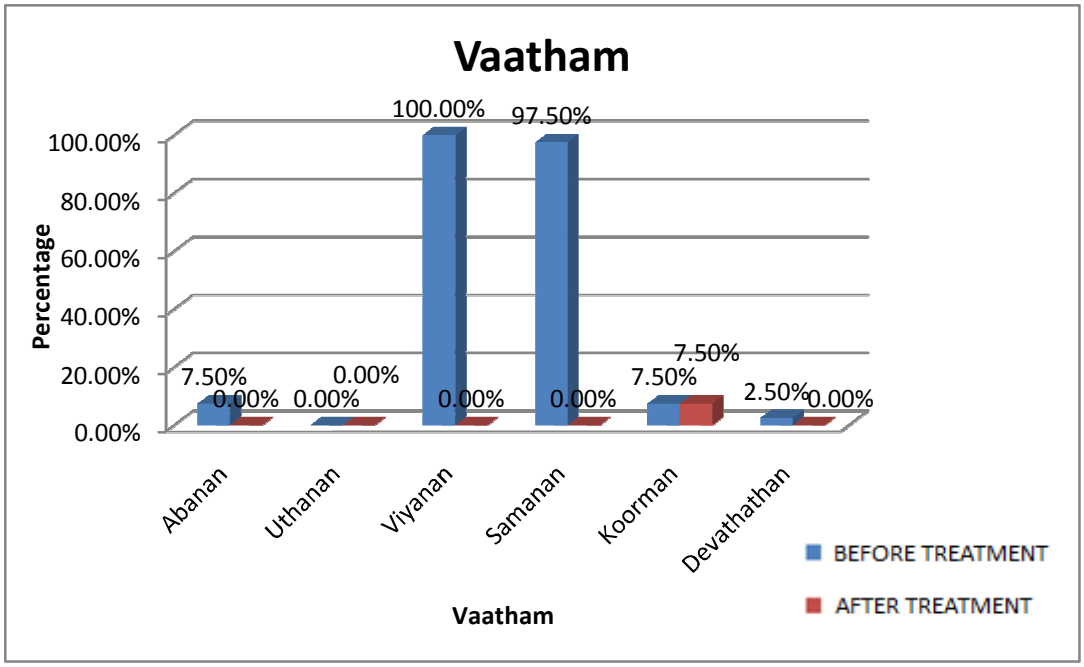


Inference:

The occurrence of the disease was found to be higher in socio economically lower class (57.50%).

10. DISTURBANCES IN VAATHAM:

VAATHAM	No. of Patients		PATIENTS RELIEVED FROM SYMPTOMS	PERCENTAGE OF PATIENTS RELIEVED
	BEFORE TREATMENT	AFTER TREATMENT		
Abanan	3	0	3	100.00%
Uthanan	0	0	0	0.00%
Viyanan	40	0	40	100.00%
Samanan	39	0	39	100.00%
Koorman	3	3	0	0.00%
Devaathathan	1	0	1	100.00%

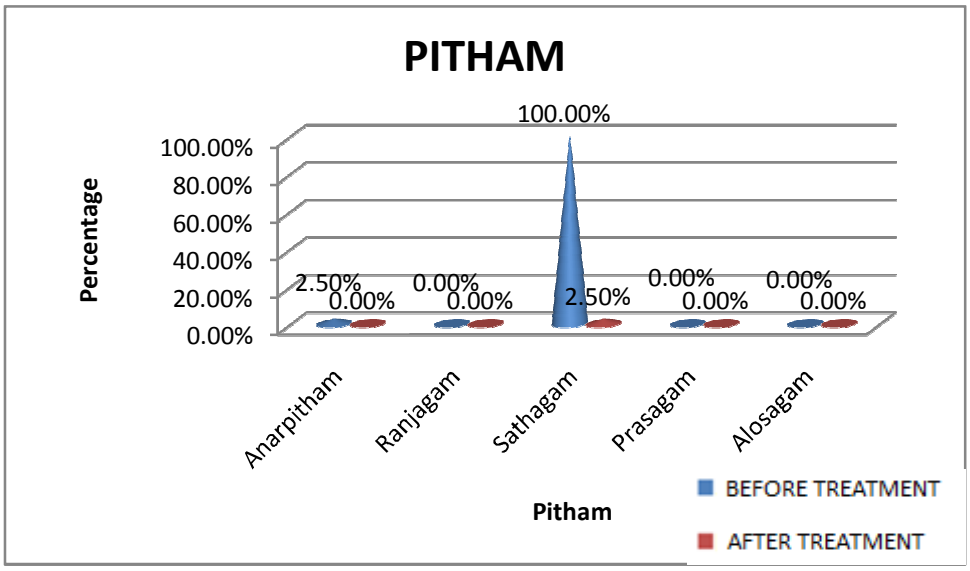


Inference:

Viyanan and Samanan vayus (pain and restricted movents in the shoulder joints) were affected in all the 40 (100%) patients. Abana vayu was affected (constipation) in 3 (7.5%) patients and koorman (dull vision) in 3(7.5%), devaathathan (sleeplessness) in 1(2.5%) patient. All the patients got relieved from symptoms exept Koorman (dull vision).

11. PITHAM:

PITHAM	No. of Patients		PATIENTS RELIEVED FROM SYMPTOMS	PERCENTAGE OF PATIENTS RELIEVED
	BEFORE TREATMENT	AFTER TREATMENT		
Anarpitham	1	0	1	100.00%
Ranjagam	0	0	0	0.00%
Sathagam	40	1	39	97.50%
Prasagam	0	0	0	0.00%
Alosagam	0	0	0	0.00%

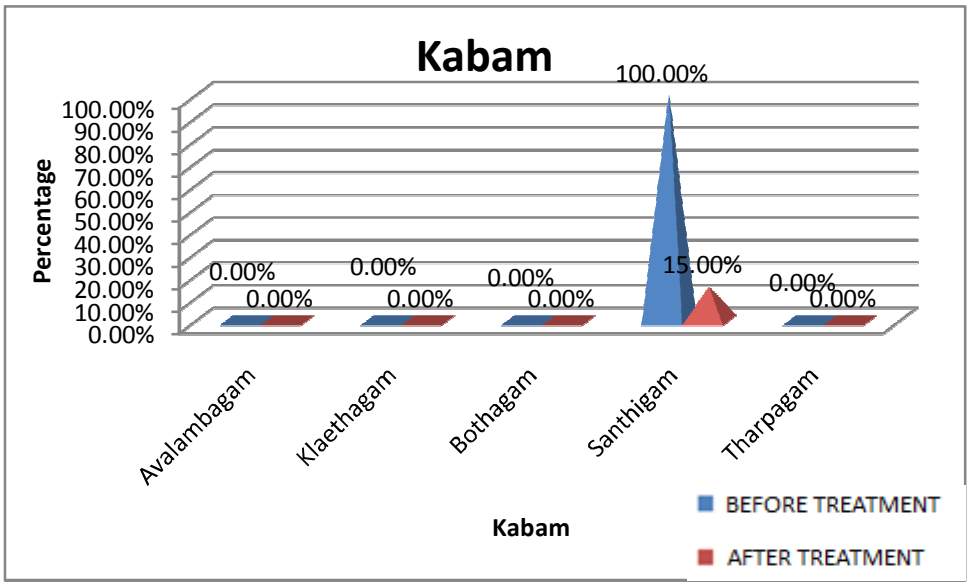


Inference:

In Pitham, anarpitham (loss of appetite) was affected in 1(2.5%) patient and Sathaga pitham (cant do day today activitys) in 40(100%) patients. After treatment, 39 (97.5%) patients got relieved from symptoms of Sathaga Pitham.

12. KABAM:

KABAM	No. of Patients		PATIENTS RELIEVED FROM SYMPTOMS	PERCENTAGE OF PATIENTS RELIEVED
	BEFORE TREATMENT	AFTER TREATMENT		
Avalambagam	0	0	0	0.00%
Klaethagam	0	0	0	0.00%
Bothagam	0	0	0	0.00%
Santhigam	40	6	34	85.00%
Tharpagam	0	0	0	0.00%



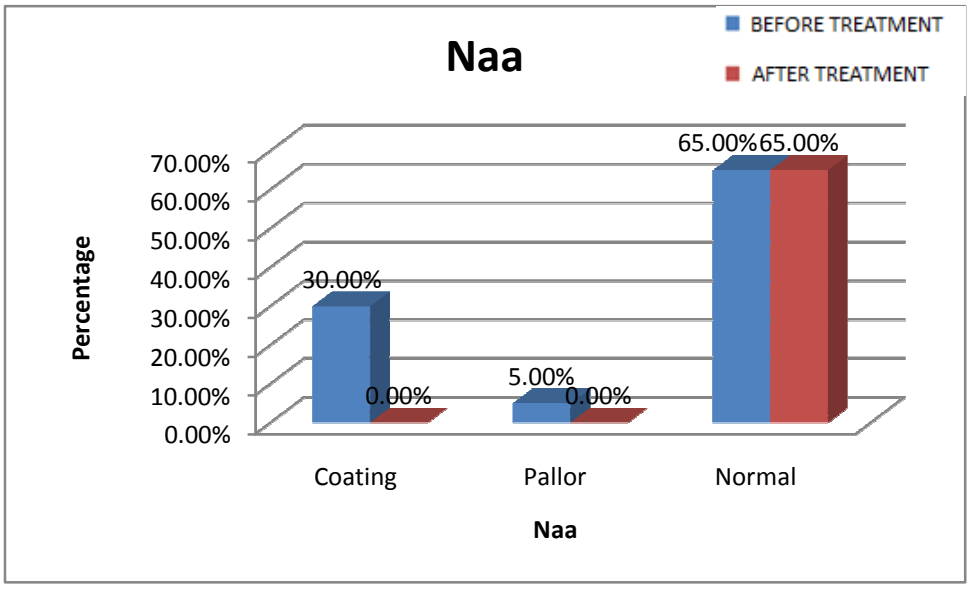
Inference:

All the 40 (100%) patients were affected by Santhigam (shoulder joint pain). After treatment, 34 patients (85%) got relieved from the symptoms.

13. ENVAGAI THERVUGAL

a. NAA:

Naa	No. of Patients		PATIENTS RELIEVED FROM SYMPTOMS	PERCENTAGE OF PATIENTS RELIEVED
	BEFORE TREATMENT	AFTER TREATMENT		
Coating	12	0	12	100.00%
Pallor	2	0	2	100.00%
Normal	26	26	26	100.00%

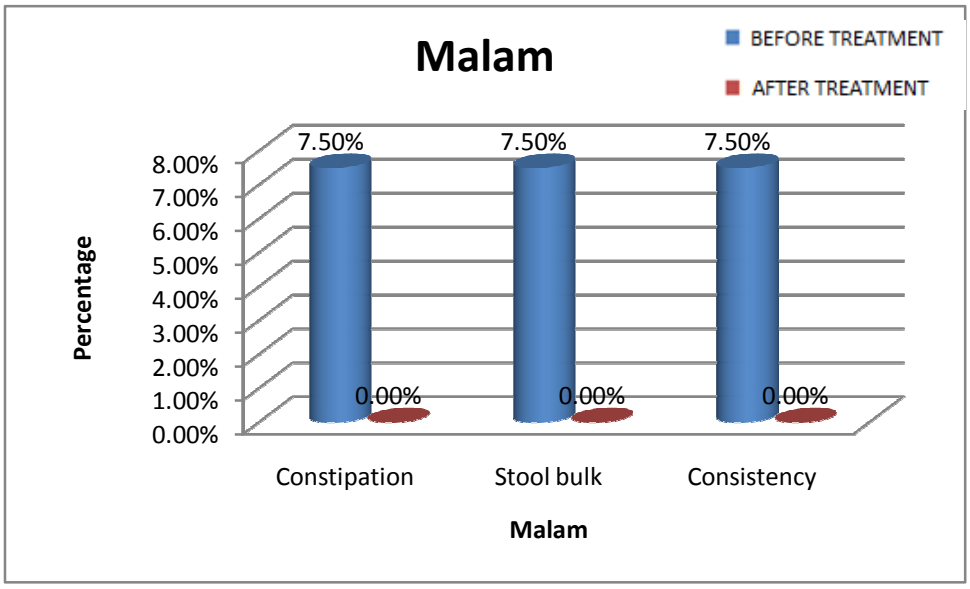


Inference:

Among the 40 (100%) patients, coating of the tongue was seen in 12(30%) patients, Pallor was seen in 2 (5%) patients and 26 (65%) patients had normal tongue. After treatment all the patients had normal tongue.

b. MALAM

Malam	No. of Patients		PATIENTS RELIEVED FROM SYMPTOMS	PERCENTAGE OF PATIENTS RELIEVED
	BEFORE TREATMENT	AFTER TREATMENT		
Constipation	3	0	3	100.00%
Stool bulk	3	0	3	100.00%
Consistency	3	0	3	100.00%

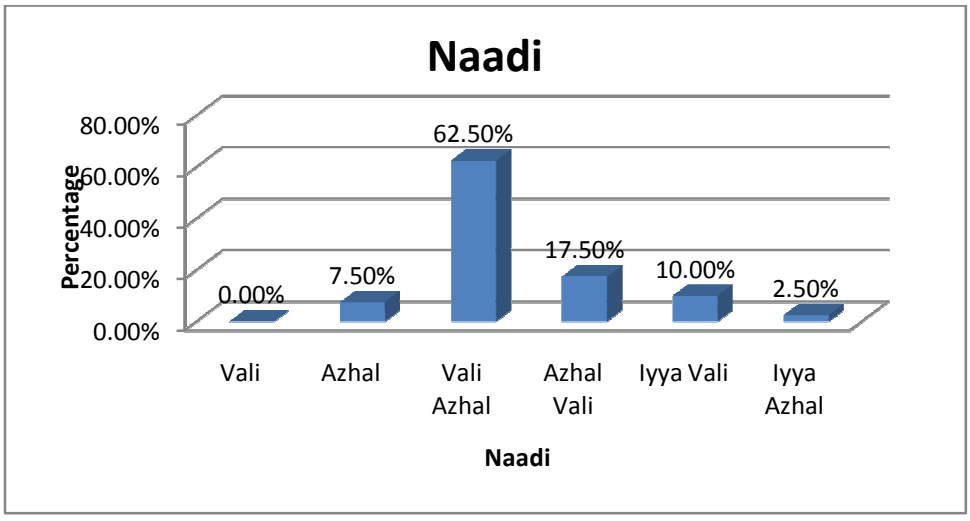


Inference:

Before treatment, constipation was seen in 3 (7.5%) patients, stool bulk was seen in 3(7.5%) patients and the stools were consistent in 3(7.5%) patients. After treatment, Malam was normal in all the patients.

14. NAADI

NAADI	No. of Patients	PERCENTAGE
Vali	0	0.00%
Azhal	3	7.50%
Vali Azhal	25	62.50%
Azhal Vali	7	17.50%
Iyya Vali	4	10.00%
Iyya Azhal	1	2.50%
Total	40	100%

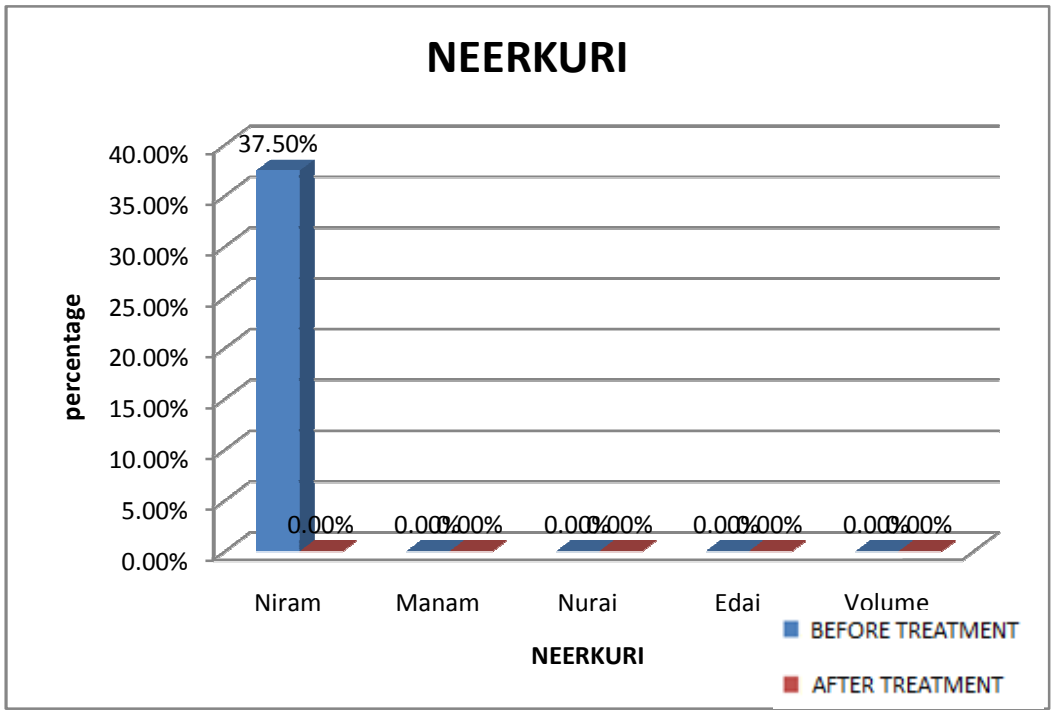


Inference:

Among 40 patients, Vali Azhal Naadi was seen in 25 patients (62.50%), Azhal Naadi was seen in 3 patients (7.50%), Azhal Vali Naadi was seen in 7 patients (17.50%), Iyya Vali Naadi was seen in 4 patients (10%) and Iyya Azhal Naadi was seen in one patient (2.50%).

15. NEERKURI

NEERKURI	No. of Patients		PATIENTS RELIEVED FROM SYMPTOMS	PERCENTAGE OF PATIENTS RELIEVED
	BEFORE TREATMENT	AFTER TREATMENT		
Niram	15	0	15	100.00%
Manam	0	0	0	0.00%
Nurai	0	0	0	0.00%
Edai	0	0	0	0.00%
Volume	0	0	0	0.00%

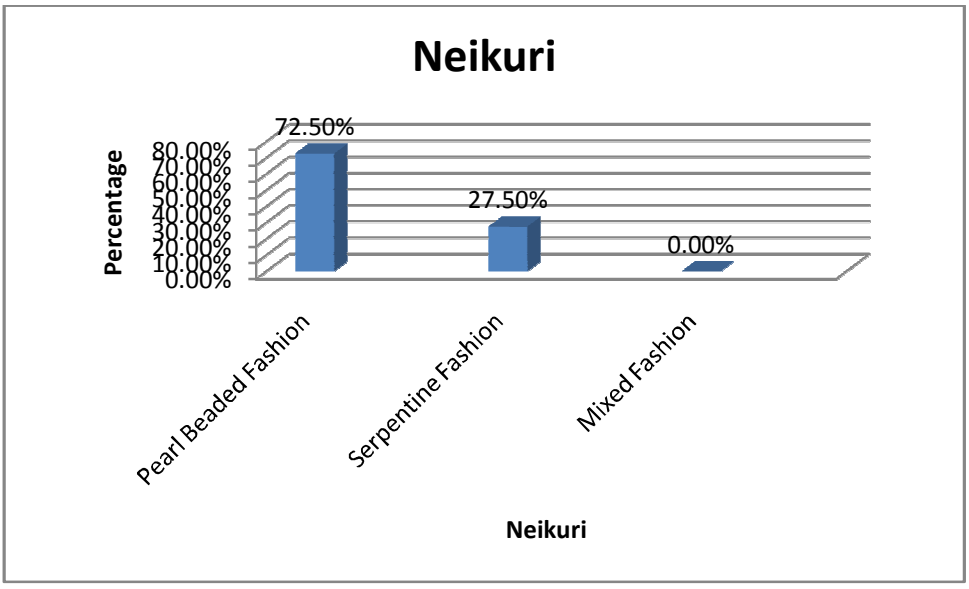


Inference:

Among 40 patients, Niram (yellow coloured urine) was seen in 15(37.5%) patients. After treatment, Niram had become normal in all the patients who were affected.

16. NEIKURI:

NEIKURI	No. of Patients	PERCENTAGE
Pearl Beaded Fashion	29	72.50%
Serpentine Fashion	11	27.50%
Mixed Fashion	0	0.00%
Total	40	100%

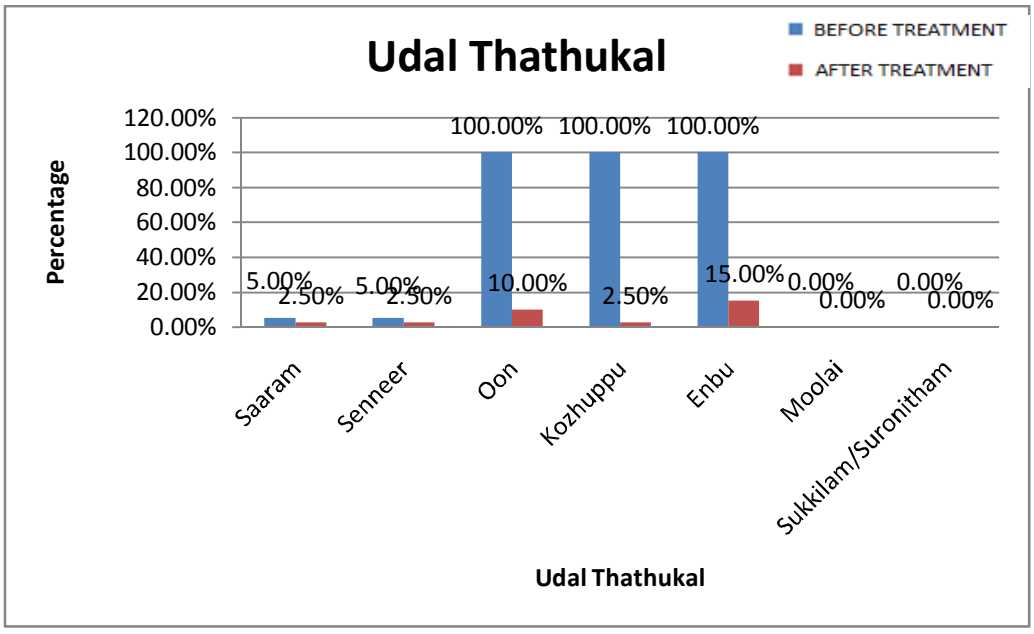


Inference:

Among 40 patients, pearl beaded fashion was seen in 29 (72.50%) patient's urine, Serpentine fashion was seen in 11 (27.50%) patient's urine.

17. SEVEN UDAL THATHUKKAL:

UDAL THATHUKKAL	No. of Patients		PATIENTS RELIEVED FROM SYMPTOMS	PERCENTAGE OF PATIENTS RELIEVED
	BEFORE TREATMENT	AFTER TREATMENT		
Saaram	2	1	1	50.00%
Senneer	2	1	1	50.00%
Oon	40	4	36	90.00%
Kozhuppu	40	1	39	97.50%
Enbu	40	6	34	85.00%
Moolai	0	0	0	0.00%
Sukkilam/Suronitham	0	0	0	0.00%

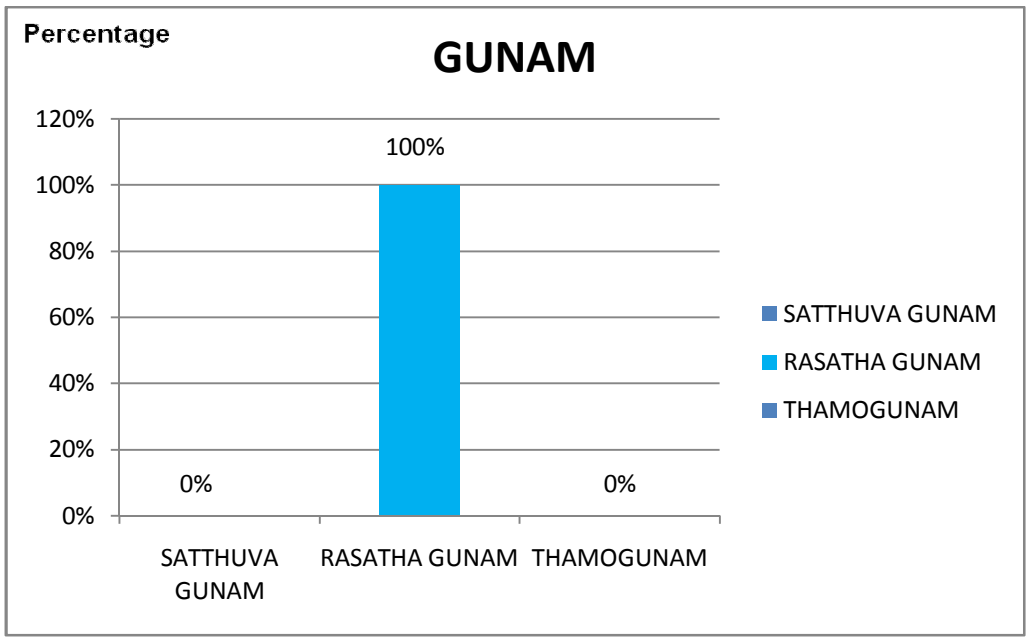


Inference:

Enbu thathu was affected in all the 40 patients (100%) It is due to the involvement of glenoid cavity of scapula and humerus. Saaram (general tiredness) was affected in 2 patients (50%) and 1 patient was normal after treatment, Senneer (pallor) in 2 patients(50%) and 1 patient was normal after treatment, Oon (spasmodic pain) and kozhupu (restricted movements in shoulder joints) in 40 patients (100%). 36 patients recovered from spasmodic pain and 39 patients recovered from restricted movements in shoulder joints.

18. Gunam:

Gunam	No. of case	Percentage
Sathuva gunam	0	0%
Rasatha gunam	40	100%
Thamo gunam	0	0%
Total	40	100%

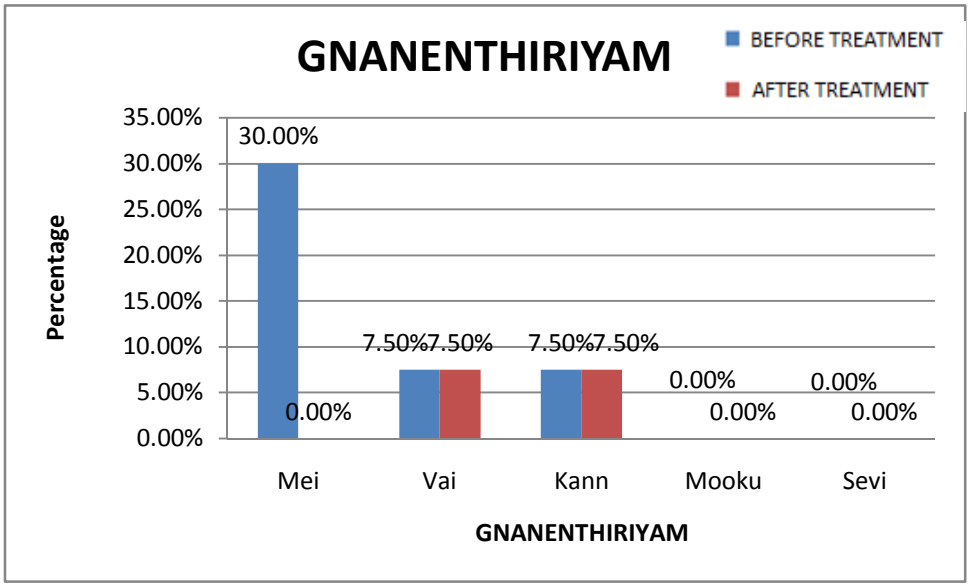


Inference:

All the 40 cases, (100%) were found to posses Rasatha gunam**.**

19. GNANENTHIRIYAM :

GNANENTHIRIYAM	No. of Patients		PATIENTS RELIEVED FROM SYMPTOMS	PERCENTAGE OF PATIENTS RELIEVED
	BEFORE TREATMENT	AFTER TREATMENT		
Mei	12	0	12	100.00%
Vai	3	3	0	0.00%
Kann	3	3	0	0.00%
Mooku	0	0	0	0.00%
Sevi	0	0	0	0.00%

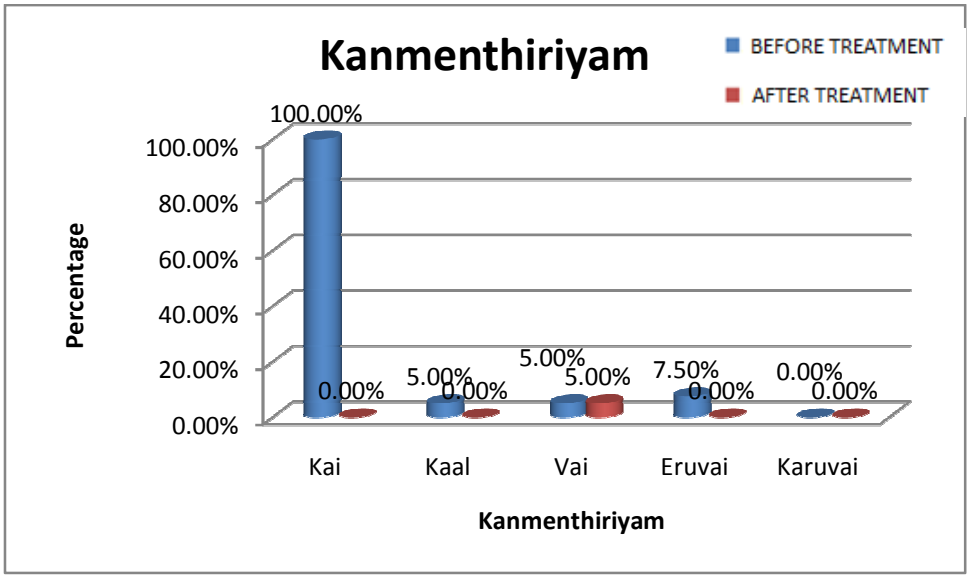


Inference:

Before treatment, Mei was affected in 12 (30%) patients, vai was affected in 3(7.5%) patients and kann was affected in 3(7.5%) patients. After treatment, Mei became normal in all the patients. But patients who were affected by vai and kann remain affected.

20. KANMENTHIRIYAM:

KANMENTHIRIYAM	No. of Patients		PATIENTS RELIEVED FROM SYMPTOMS	PERCENTAGE OF PATIENTS RELIEVED
	BEFORE TREATMENT	AFTER TREATMENT		
Kai	40	0	40	100.00%
Kaal	2	0	2	100.00%
Vai	2	2	0	0.00%
Eruvai	3	0	3	100.00%
Karuvai	0	0	0	0.00%

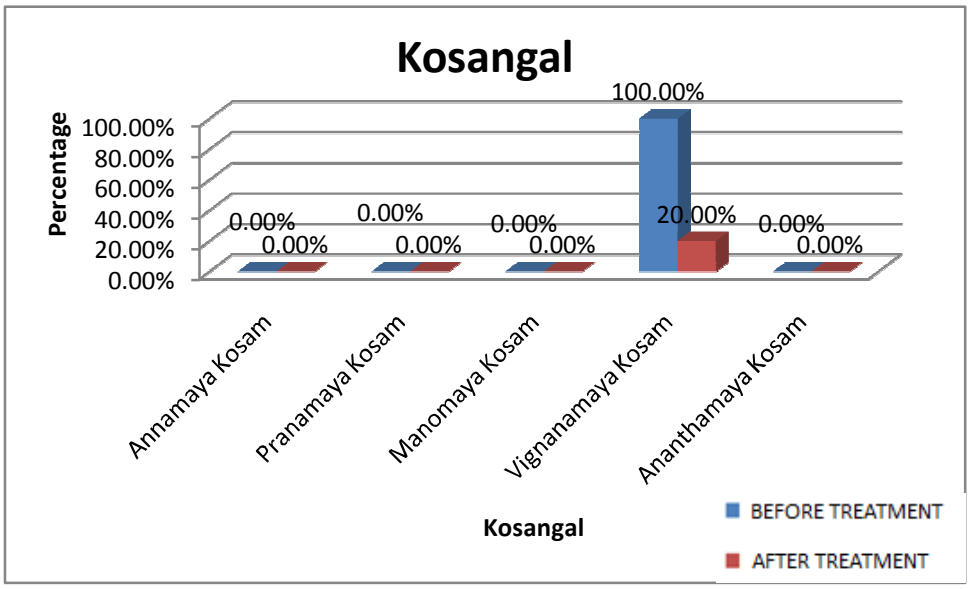


Inference:

Kai was affected in all the 40 (100%) patients, and all the cases were relieved from the symptoms after treatment. Kaal was affected in 2 (5%) patients, and the symptoms were relieved after treatment. Eruvai was affected in 3 (7.5%) patients, and the symptoms were relieved after treatment. Vai was affected in 2 (5%) patients, no one got relieved from th symptoms after treatment.

21. KOSANGAL:

KOSANGAL	No. of Patients		PATIENTS RELIEVED FROM SYMPTOMS	PERCENTAGE OF PATIENTS RELIEVED
	BEFORE TREATMENT	AFTER TREATMENT		
Annamaya Kosam	0	0	0	0.00%
Pranamaya Kosam	0	0	0	0.00%
Manomaya Kosam	0	0	0	0.00%
Vignanamaya Kosam	40	8	32	80.00%
Ananthamaya Kosam	0	0	0	0.00%

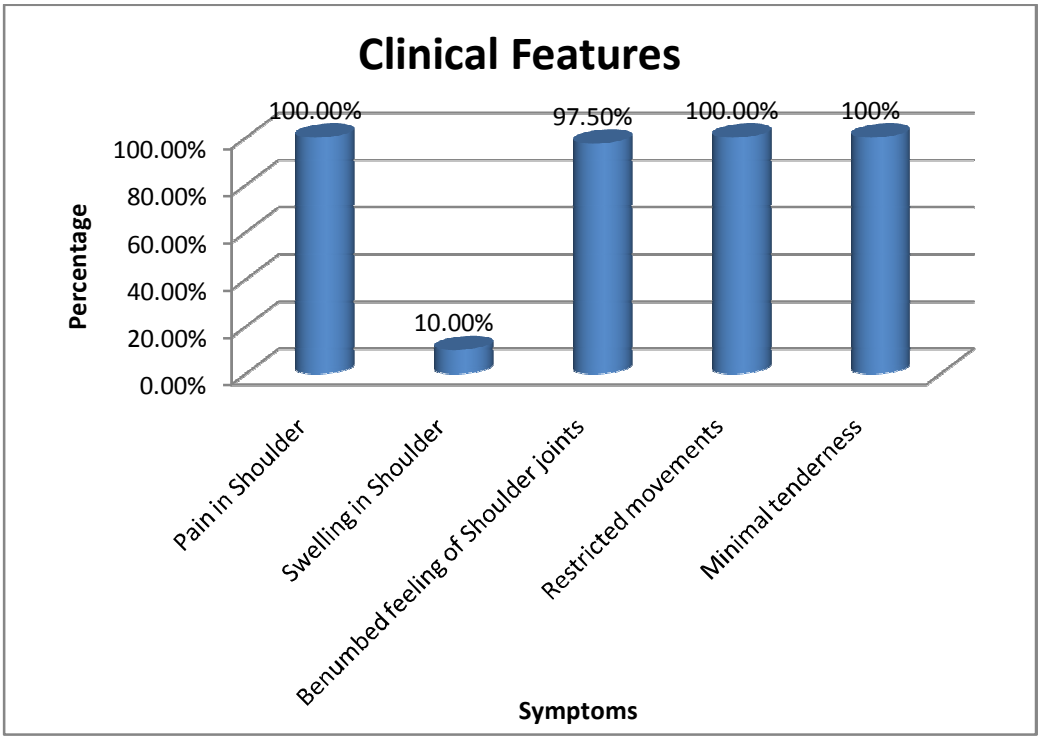


Inference:

Among 40 patients, Vignanamaya kosam deranged in all the 40(100%) patients. After treatment, 8 (20%) patients were affected by Vignanamaya kosam. Remaining 32 (80%) patients had good relief.

22. CLINICAL FEATURES:

Clinical Features	No. of Patients	Percentage
Pain in Shoulder	40	100.00%
Swelling in Shoulder	4	10.00%
Benumbed feeling of Shoulder joints	39	97.50%
Restricted movements	40	100.00%
Minimal tenderness	40	100%

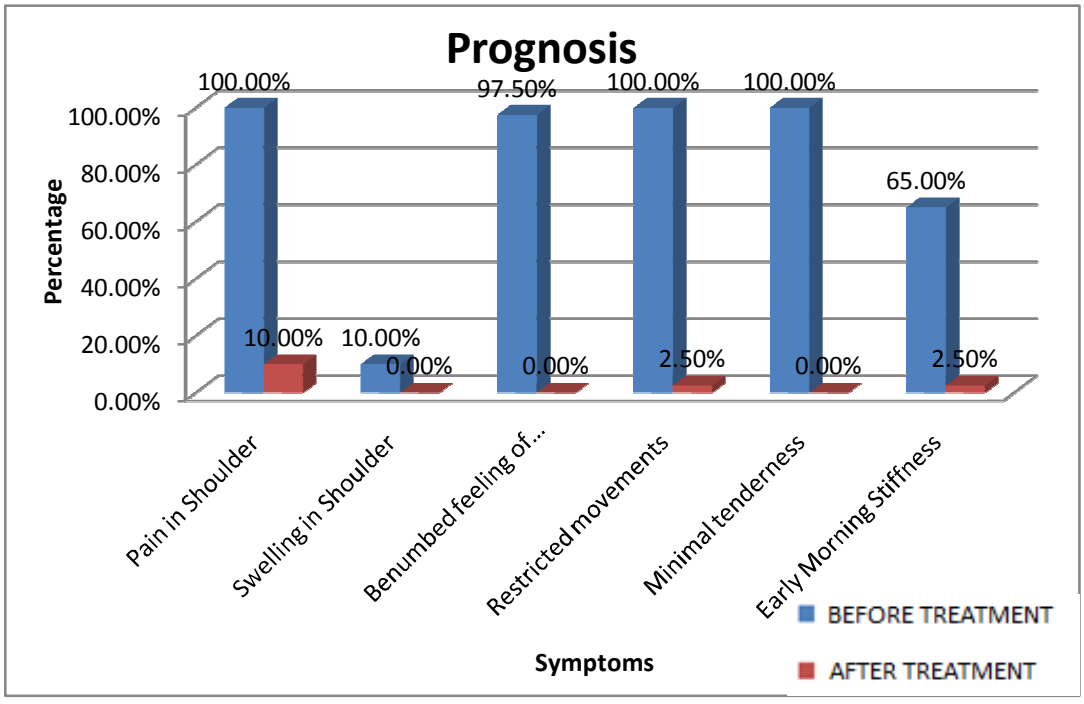


Inference:

All 40 (100%) patients had pain in the shoulders, restricted movements, minimal tenderness, 39 (97.5%) have benumbed feeling and only 4 had swelling in shoulder.

23. PROGNOSIS :

Clinical Features	No. of Patients		No. of Patients Recovered	Percentage of Patients Recovered
	PRE TREATMENT	POST TREATMENT		
Pain in Shoulder	40	4	36	90.00%
Swelling in Shoulder	4	0	4	100.00%
Benumbed feeling of Shoulder joints	39	0	39	100.00%
Restricted movements	40	1	39	97.50%
Minimal tenderness	40	0	40	100.00%
Early Morning Stiffness	26	1	25	96.15%

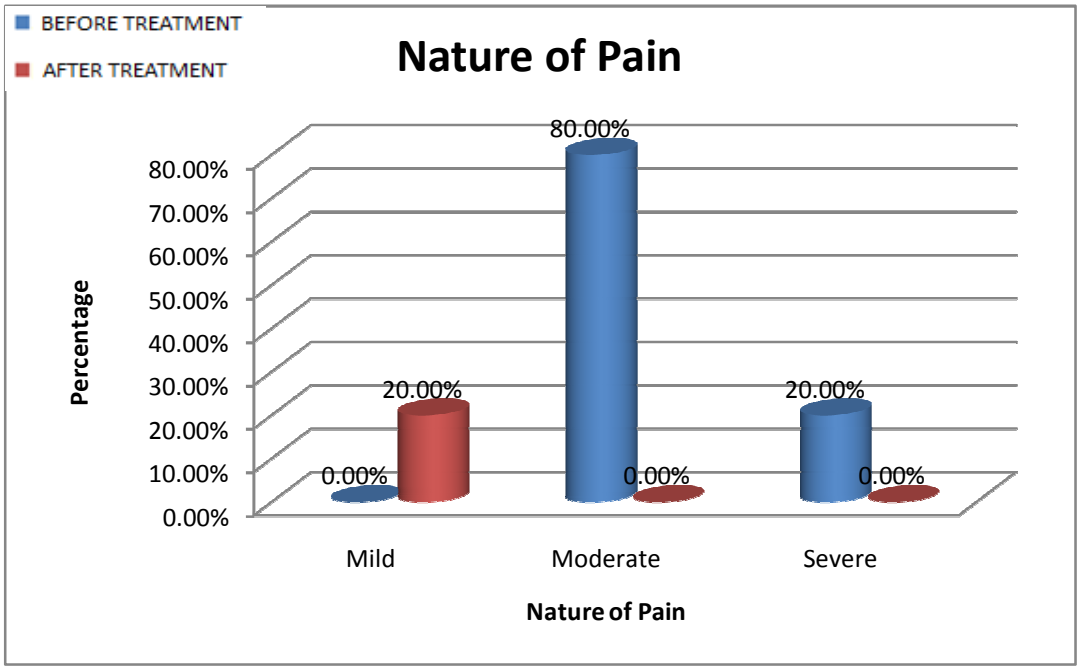


Inference:

Among 40 (100%) patients 36 (90%) got relieved from pain and all the 40 patients got relieved from minimal tenderness in the shoulders, all 4 got relieved from swelling in the shoulder joints, all 39 got relieved from benumbed feeling and 39 got relieved from restricted movements.

a.Nature of Pain:

Nature of Pain	No. of Patients	
	BEFORE TREATMENT	AFTER TREATMENT
Mild	0	8
Moderate	32	0
Severe	8	0
Total	40	8

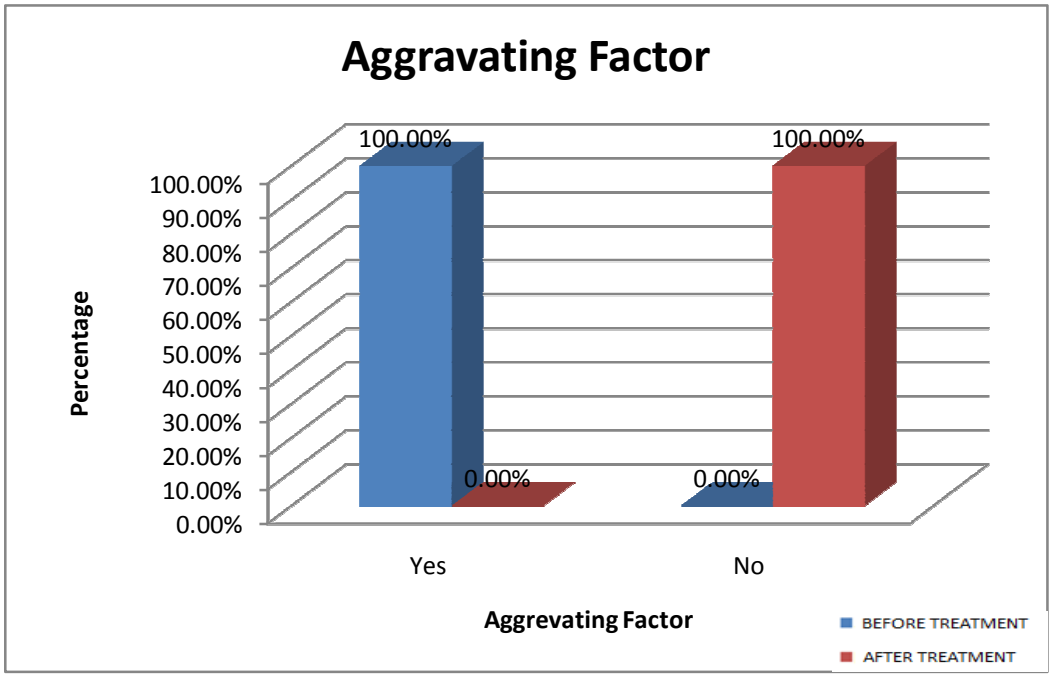


Inference:

Before treatment, 32(80%) patients were affected by moderate pain, 8(20%) patients were affected by severe pain. After treatment, 8 (20%) patients had relieved from severe pain to mild pain.

b.Aggravating factor on Movement:

Aggravating factor on Movement	No. of Patients		Percentage of Patients Relieved
	BEFORE TREATMENT	AFTER TREATMENT	
Yes	40	0	0%
No	0	40	100%
Total	40	40	100%

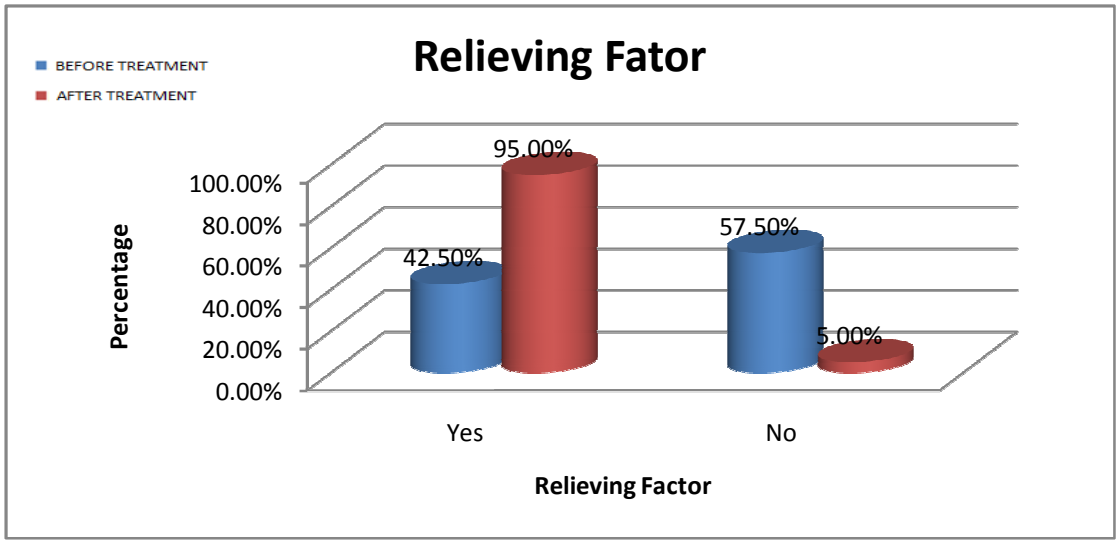


Inference:

Before treatment, all the 40 patients (100%) had pain on movements. After treatment, all the 40 patients (100%) got relieved.

c.Relieving factor – Rest:

Relieving factor - Rest	No. of Patients		Percentage of Patients Relieved
	BEFORE TREATMENT	AFTER TREATMENT	
Yes	17	38	95.00%
No	23	2	5.00%
Total	40	40	100.00%

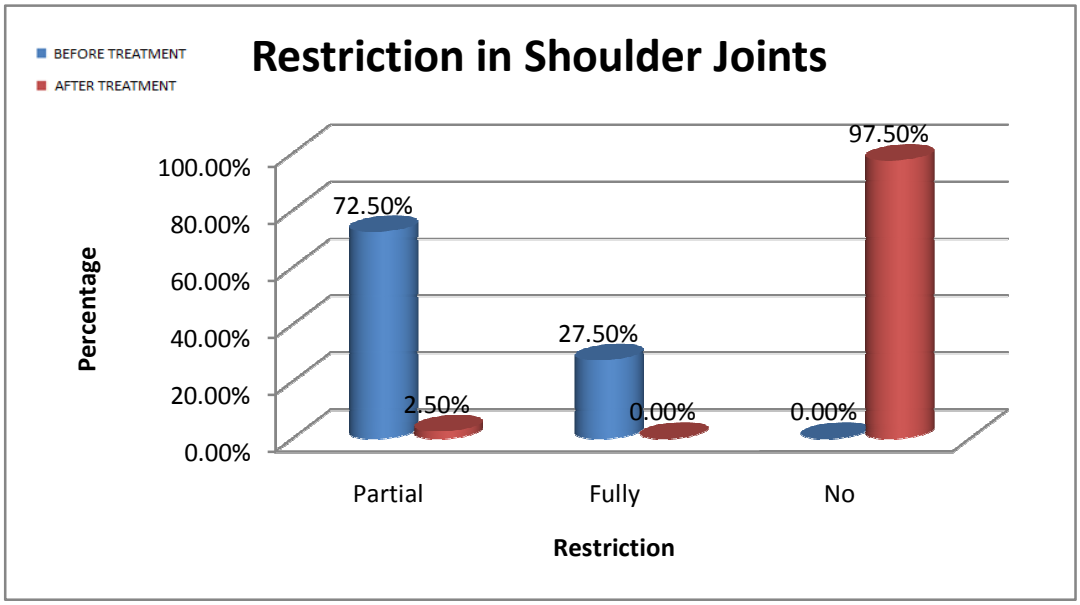


Inference:

After treatment, 38 patients (95%) got relieved during rest.

d.Restriction in shoulder joints:

Restriction Shoulder Joints	No. of Patients		Percentage of Patients Relieved
	BEFORE TREATMENT	AFTER TREATMENT	
Partial	29	1	2.50%
Fully	11	0	0.00%
No	0	39	97.50%
Total	40	40	100.00%



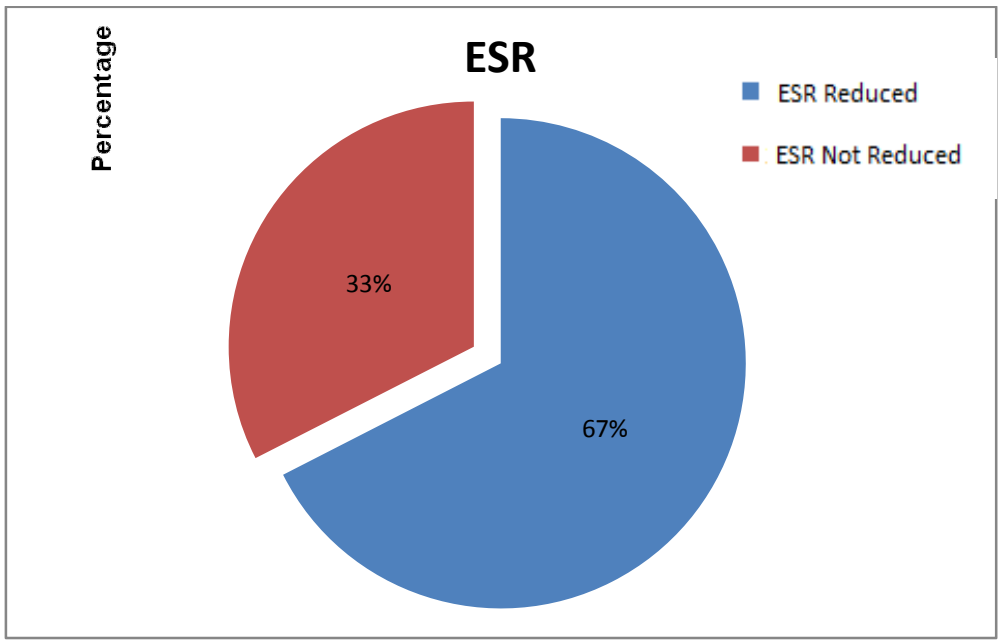
Inference:

Before treatment 29 (72.5%) patients had partial restriction of movements in the shoulder joints and 11(27.5%) patients had restriction fully. After treatment only one had partial restriction and remaining 39 (97.5%) patients got relieved from shoulder restrictions.

24.LAB INVESTIGATIONS:

ESR:

ESR	No. of patients	% of patients
No. of patients ESR reduced	27	67.50%
No. of patients ESR not reduced	13	32.50%
Total	40	100.00%



Inference:

Out of 40 patients, ESR got reduced in 27 patients after treatment but in 13 patients it remained the same

STATISTICAL ANALYSIS

All collected data were entered into MS Excel software using different columns as variables and rows as patients. SPSS software was used to perform statistical analysis. Basic descriptive statistics include frequency distributions and cross-tabulations were performed. The quantity variables were expressed as Mean ± Standard Deviation and qualitative data as percentage. A probability value of <0.05 was considered to indicate as statistical significance. Paired't' test was performed for determining the significance between before and after treatment.

	Mean	**Std Deviation**	**Significant**
Before	5.58	1.318	**p<0.0001**
After	0.33	0.694	

Inference:

The Mean ± Standard Deviation of pain score at before and after treatment were 5.58 ± 1.318 and 0.33 ± 0.694 respectively which is statistically **highly significant (p<0.0001).**

DISCUSSION

Kumbavaatham has increased in incidence now days due to various life style modifications. Severity of the disease attracts the attention of physicians to implement various therapies. Numerous medicines have been tried previously for treating this condition. Taking into account the indication of trial drugs in sastric texts and pharmacological activities of ingredients, they were chosen for study.

The internal medicine Parangipattai Rasayanam was analyzed methodically. Biochemical and pharmacological analysis were done. Acute and subacute toxicity studies were carried out to confirm the safety of the drug. The biochemical markers of liver and kidney function tests did not show evidence of liver and kidney toxicity. There was no significant change in biochemical parameters like blood cholesterol, blood sugar. No significant changes in body weight, food, water intake were observed in drug treated animals when compared to controls.

The treatment was aimed to normalize the deranged kuttram and to provide relief from the symptoms. Before treatment the patients were advised to take Agasthiyar Kuzhambu-130 mgs with zinger juice, during early morning for purgation followed by rest on that day. The next day onwards treatment with the trial drug **PARANGIPATTAI RASAYANAM (**internal**) 6gm twice daily for 24 days with milk and LASUNATHY THAILAM** (external) **50ml for external appication**

During treatment, the patients were advised to follow pathiyam (diet restrictions).

40 patients were admitted for trial, among whom 30 were out-patients and 10 were in-patients. Progress of the patients was documented regularly.

Various criteria like gender predominance, incidence of the disease with respect to the age, kaalam (seasonal variation) and diet were assessed. Clinical manifestation and assessment of the improvement in the prognosis of the disease with trial drugs were taken into account for evaluating the efficacy of trial drugs.

The study reveals highest range of occurrence of disease between the age of 36 – 45(30%) and 46-55 (30%) among 40 patients . It is due to the degenerative changes in this age group.

Females (60%) are affected more than males among study sample. This may be due to increased work load and deficiency state of nutrients.

Among the 40 patients, home makers were in higher percentage 57.5%, persons in cooly 22.5% occupation is followed by mechanics 7.5%, engineers (5%), tailors (5%). drivers (2.5%), Heavy house-hold works act as an aggravating factor in home makers.

Highest occurrence 60% was reported in Ilavenil kaalm and 40% was reported during mudhuvenil kaalam. According to Siddha literature, the Vaatha kuttram attains thannilai valarchi (mild derangement) during Mudhuvenil kaalam.

Among 40 patients, 2 patients (5%) were Vegetarians and 38 patients (95%) were Non-vegetarians.

Among 40 patients, 31 patients (77.50%) had Thontha udal, 6 patients (15%) had Pitha udal and 3 patients (7.5%) had Kaba udal.

72.5% of patients were reported from Neithal nilam, 22.5% of patients were reported from Marutham nilam and 2.5 % were from Kurinji and Mullai nilam.

Among 40 patients, 30 (75%) patients were suffering from this illness for up to 6 months, 7 patients (17.50%) were affected between 7 to 12 months and 3 patients (7.50%) were affected between 19 to 24 months.

On considering the socio-economic status, 57.5% patientsof study sample were from lower income group, 35% were from middle income group and the remaining 7.5% were from high income group.

Viyanan and Samanan vayus (pain and restricted movents in the shoulder joints) were affected in all the 40 (100%) patients. Abana vayu was affected (constipation) in 3 (7.5%) patients and koorman (dull vision) in 3(7.5%), devaathathan (sleeplessness) in 1(2.5%) patient. All the patients got relieved from symptoms exept Koorman (dull vision).

In Pitham, anarpitham (loss of appetite) was affected in 1(2.5%) patient and Sathaga pitham (cant do day today activitys) in 40(100%) patients. After treatment, 39 (97.5%) patients got relieved from symptoms of Sathaga Pitham.

All the 40 (100%) patients were affected by Santhigam (shoulder joint pain). After treatment, 34 patients (85%) got relieved from the symptoms.

Among the 40 (100%) patients, coating of the tongue was seen in 12(30%) patients, Pallor was seen in 2 (5%) patients and 26 (65%) patients had normal tongue. After treatment all the patients had normal tongue.

Before treatment, constipation was seen in 3 (7.5%) patients, stool bulk was seen in 3(7.5%) patients and the stools were consistent in 3(7.5%) patients. After treatment, Malam was normal in all the patients.

Among 40 patients, Vali Azhal Naadi was seen in 25 patients (62.50%), Azhal Naadi was seen in 3 patients (7.50%), Azhal Vali Naadi was seen in 7 patients (17.50%), Iyya Vali Naadi was seen in 4 patients (10%) and Iyya Azhal Naadi was seen in one patient (2.50%).

Among 40 patients, Niram (yellow coloured urine) was seen in 15(37.5%) patients. After treatment, Niram had become normal in all the patients who were affected.

In Neikkuri Examination (Oil on urine sign), serpentine fashion was seen in 27.5% patientsand pearl fashion was seen in 72.5% patients

Enbu thathu was affected in all the 40 patients (100%) It is due to the involvement of glenoid cavity of scapula and humerus. Saaram (general tiredness) was affected in 2 patients (50%) and 1 patient was normal after treatment, Senneer (pallor) in 2 patients(50%) and 1 patient was normal after treatment, Oon (spasmodic pain) and kozhupu (restricted movements in shoulder joints) in 40 patients (100%). 36 patients recovered from spasmodic pain and 39 patients recovered from restricted movements in shoulder joints.

All the 40 cases, (100%) were found to posses Rasatha gunam.

Among 40 patients of the trial 100% patients were reported with pain in the shoulder joints and restricted movements and Minimal tenderness and 97.5% of patients reported benumbed feeling of Shoulder joints and 10% reported Swelling in the Shoulder joints

Before treatment, Mei was affected in 12 (30%) patients, vai was affected in 3(7.5%) patients and kann was affected in 3(7.5%) patients. After treatment, Mei became normal in all the patients. But patients who were affected by vai and kann remain affected.

Kai was affected in all the 40 (100%) patients, and all the cases were relieved from the symptoms after treatment. Kaal was affected in 2 (5%) patients, and the symptoms were relieved after treatment. Eruvai was affected in 3 (7.5%) patients, and the symptoms were relieved after treatment. Vai was affected in 2 (5%) patients, no one got relieved from th symptoms after treatment.

Among 40 patients, Vignanamaya kosam is affected (pain and restricted movements in shoulder joints) in all the 40(100%) patients. After treatment, 8 (20%) patients were affected by Vignanamaya kosam. Remaining 32 (80%) patients were relieved.

Laboratory investigation of blood and urine were done for all 40 patients prior to and after trial. There were significant changes in ESR and Hb parameters. Pre-treatment and post-treatment results of Liver function tests and renal function tests were normal.

The radiographic studies of the patientsshowed presence of osteophytic changes. The trial drug showed reduction in clinical signs and symptoms rather than any changes in radiographic studies.

After treatment, 90% patients recovered from pain in the shoulder joints and 97.5% recovered from Restricted movements and 100% recovered from Minimal tenderness and Benumbed feeling of Shoulder joints and Swelling in the Shoulder joints.

OUTCOME MEASURES:

PRIMARY OUTCOME OBSERVATIONS:

NATURE OF PAIN : (PAIN ASSESSMENT SCALE-ANNEXURE I)

Among 40 cases,

As per the numerical Pain assessment scale,

In 32 (80%) cases there was no pain after treatment.

In 8 (20%) cases there was mild pain after treatment.

IMPROVEMENT IN PAIN ASSESSMENT PER PATIENT:

Among 40 cases have shown reduction in pain after the completion of treatment. Hence

***The range of improvement varies as stated below**

8 (20%) cases had improved 2 grades after treatment.

32(80%) cases had improved 1 grade after treatment

SECONDARY OUTCOME OBSERVATIONS:

I. CLINICAL SYMPTOMS.

Observation with reference to Clinical symptoms:

a. Pain:

Among the total number of 40 cases,

- In 32 (80%) cases there was complete relief of pain.
- In 8 (20%) of cases there was reduction in pain.

b. **Aggravating factor on movements:**

Among the 40 cases, 40 (100%) cases were pain aggravating on movements before treatment.

but

- In 40 (100%) cases there was no pain aggravating on movements after treatment.

c.Releiving factor – during Rest :

Among the 40 cases, 17 cases were pain relieved during rest and 23 cases were no pain relieved during rest before treatment

- In 38 (95%) cases were pain relieved during rest after treatment.
- In 2 (5%) cases were no pain relieved during rest after treatment

d.Restriction of shoulder joints :

Among the 40 cases, 29 cases were partial restriction movement in the shoulder joints present and 11 cases were fully restriction movement in the shoulder joints present before treatment

But

- In 39 (97.5%) cases were no restricted movement in the shoulder joints after treatment
- In 1 (2.5%) cases were partisl restricted movement in the shoulder joints present after treatment

STATISTICAL ANALYSIS:

I. PAIN ASSESSMENT SCALE BEFORE AND AFTER TREATMENT.

Bio Statistical Analysis

The clinical trials of the drug PARANGIPATTAI RASAYANAM(Internal) and LASUNATHY THAILAM (External) are differentiated in terms of percentages. The effectiveness of the drug is assessed by using paired comparison test (paired t test). The responses (intensity of pain) of the patients to the drug are analyzed.

Assessment of the effectiveness of drug:

The effectiveness of the drug was assessed by the relief of the patients from pain, and which is measured using a standard pain scale.

INFERENCE: The test drug is is **highly statistically significant ($p<0.0001$)** and hence effective in reducing the pain

2. ERTHROCYTE SEDIMENTATION RATE (ESR)

Though there was improvement in 22 patients (55%), there was no significant increase after the treatment statistically

HAEMOGLOBIN

Though there was improvement in 31 patients (77.5%), there was no significant increase after the treatment statistically

Biochemical analysis:

Qualitative analysis reveals parangipattai rasayanam contains, nitrates, sulfates, tanic acid, Iron, Calcium, unsaturated compounds.

- Quantitative analysis revealed that it contains chiefly

Ca 317.933	246.249 mg/L
Cu 324.754	8.255 mg/L
Fe 238.204	16.985 mg/L
K 766.491	120.159 mg/L
Mg 257.610	19.578 mg/L
P 214.914	77.995 mg/L
Si 251.611	17.249 mg/L
S 181.975	64.654 mg/L
Zn 213.856	23.756 mg/L

- SEM – Micro graph partical size – 8 - 17 micron

TOXICITY STUDY:

ACUTE TOXICITY:

Acute toxicity studies done in National Institute of Siddha, as per WHO guide lines revealed the safety of the drug in oral dose (12g – Single day human dose) as it did not produce any adverse effects in the animals. There were no abnormalities detected in the internal organs on necropsy.

SUBACUTE TOXICITY:

Subacute toxicity studies done in National Institute of Siddha, as per WHO guide lines did not reveal any adverse effects in the animal. Animal behavior, food and water intake, defaecation, urination etc , did not reveal any abnormality. histopathological examination did not show any abnormal variations.

Hence it can be concluded from the study that up to maximum dose (1800mg/animal) the drug was proved to be safe.

SUMMARY

- The aim of the study is to evaluate the safety and efficacy of trial drug for Kumbavaatham
- Institutional Ethical Committee (IEC) of National Institute of Siddha (NIS) had given approval to the project entitled Safety and Efficacy of parangipattai rasayanam (internal), lasunathy thailam (external) in KumbaVaatham. **Approved IEC No:NIS/IEC/2011/3/08 - 24/12/2011**
- Institutional Animal Ethical Committee (IAEC) had approved for animal study. **Approved IAEC No: 1248/ac/09/CPCSEA/4-08/2011 - 20/12/2011.**
- The raw drugs were authenticated by the concerned department and the trial drug was prepared by the investigator in the Gunapadam lab of National Institute of Siddha as per the Standard Operating Procedure mentioned in the protocol.
- The medicine was then subjected to pre clinical toxicity studies (Acute and long term toxicity studies) as per the protocol and the safety of the drug was ensured.
- The qualitative and quantitative bio chemical studies were done at the bio chemistry lab of National Institute of Siddha and IIT Chennai respectively
- For the clinical study 40 cases were selected based on the Inclusion criteria and Exclusion criteria, Out of 40 cases, 30 cases were treated in OPD and 10 cases were treated in IPD of Ayothidass Pandithar Hospital, National Institute of Siddha, Chennai-47.
- Clinical diagnosis of kumbaVaatham was done by Siddha and Modern methodologies.
- Informed Consent was obtained from the Patients before starting the treatment.
- Investigations were carried out before and after the treatment.
- The day before starting the trial drug treatment Agasthiyar Kuzhambu - 130 mgs with zinger juice, during early morning for purgation followed by rest on that day, was given to correct the elevated kuttrams.
- The clinical trial was conducted in 40 patients of kumbavaatham the drug **PARANGIPATTAI RASAYANAM (**internal**) 6gm twice daily for 24 days with milk and LASUNATHY THAILAM** (external) **50ml for external appication**.
- Diet restriction was strictly followed during the period of drug administration as well as re dieting period (Diet free of salt, tamarind etc) is noted in the form IV D (Dietary advice form).

- ❖ Clinical assessments were made daily in the IPD cases and 12 days once in OPD cases and observation were noted in the concerned forms.
- ❖ During the study period there was no adverse drug reactions occur.
- ❖ Among 40 cases, 90% patients recovered from pain in the shoulder joints and 97.5% recovered from restricted movements and 100% recovered from Minimal tenderness and benumbed feeling of Shoulder joints and Swelling in the Shoulder joints.
- ❖ The results of the study reveal the fact that these medicines are efficacious in reducing pain, benumbed fleeing and restriction of movements in kumbavaatham
- ❖ As per the Siddha Literature and modern science reviews and research articles, the ingredients of the trial drugs were found to have the property of controlling the Vaatha diseases, some drugs exhibited anti inflammatory and analgesic action owing to the disease manifestations
- ❖ In case of Clinical Lab parameters there was reduction in ESR which showed the therapeutic effect of the drug in controlling the disease to a greater extent.
- ❖ Qualitative analysis reveals parangipattai rasayanam contains, nitrates, sulfates, tanic acid, Iron, Calcium, unsaturated compounds.
- ❖ Statistical analysis showed significant reduction in pain scale before and after the treatment. **($p<0.0001$)**
- ❖ Oral toxicity studies conducted ensured the safety usage of the drug to animals up to a maximum dose of 1800 mg/animal.

CONCLUSION

- Siddha literature is treasured with numerous formulations of medicines for various disease conditions. This study was done with the sastric medicines **PARANGIPATTAI RASAYANAM (internal) and LASUNATHY THAILAM** (external). These are indicated for vaatha diseases in the texts.
- Among 40 cases, 90% patients recovered from pain in the shoulder joints and 97.5% recovered from restricted movements and 100% recovered from Minimal tenderness and benumbed feeling of Shoulder joints and Swelling in the Shoulder joints.
- The results of the study reveal the fact that these medicines are efficacious in reducing pain, benumbed fleeing and restriction of movements in kumbavaatham.
- The safety studies (the acute toxicity and subacute toxicity) studies conducted revealed that the trial drug was safe even at higher dosage of 1800 mg/animal. There were no abnormalities found in histopathological examination .Hence it can be reasonably assumed that the drug is safe for human.
- Statistical analysis showed significant reduction in pain scale before and after the treatment. **($p<0.0001$)**
- There was a reduction in the elevated lab parameters ESR after the treatment revealing the contol of the disease
- There were no adverse reactions complained during the trial
- Because of the encouraging clinical outcome, the study may be further carried out with the same drug in a large number of cases
- Thus it is concluded the medicines **PARANGIPATTAI RASAYANAM (internal) and LASUNATHY THAILAM** (**external**) reducing pain, benumbed fleeing and restriction of movements in kumbavaatham.

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Qualitative phytochemical analysis of Acidic/Basic radicals and constituents in test drugs

Preliminary Qualitative analysis of drug –Parangipattai rasayanam

ANALYSED AT NATIONAL INSTITUTE OF SIDDHA

S.No	EXPERIMENT	OBSERVATION	INFERENCE
1.	Physical Appearance of sample	Brown in colour	
2.	**Solubility:** a. A little (500mg) of the sample is shaken well with distilled water. b. A little (500mg) of the sample is shaken well with con. HCl/Con. H_2So_4.	Completely soluble	Absence of Silicate
3.	**Action of Heat:** A small amount (500mg) of the sample is taken in a dry test tube and heated gently at first and then strong.	White fumes evolved	Absence of Carbonate
4.	**Flame Test:** A small amount (500mg) of the sample is made into a paste with con. HCl in a watch glass and introduced into non-luminous part of the Bunsen flame.	No Bluish green flame appeared.	Absence of Copper
5.	**Ash Test:s** A filter paper is soaked into a mixture of sample and dil. cobalt nitrate solution and introduced into the Bunsen flame and ignited	No Yellow colour flame	Absence of Sodium

Preparation of Extract:

5gm of parangipattai rasayanam is weighed accurately and placed in a 250ml clean beaker and added with 50ml of distilled water. Then it is boiled well for about 10 minutes. Then it is cooled and filtered in a 100ml volumetric flask and made up to 100ml with distilled water.

S.No	EXPERIMENT	OBSERVATION	INFERENCE
	I. Test For Acid Radicals		
1.	**Test For Sulphate:** 2ml of the above prepared extract is taken in a test tube to this added 2ml of 4% dil ammonium oxalate solution.	Cloudy appearance present	Present
2.	**Test For Chloride:** 2ml of the above prepared extracts is added with 2ml of dil-HCl is added until the effervescence ceases off.	No Cloudy appearance present	Absent
3.	**Test For Phosphate:** 2ml of the extract is treated with 2ml of dil.ammonium molybdate solution and 2ml of con.HNo3.	No Yellow appearance present	Absent
4.	**Test For Carbonate:** 2ml of the extract is treated with 2mldil. magnesium sulphate solution.	No Cloudy appearance present	Absent
5.	**Test For Nitrate:** 1gm of the substance is heated with copper turning and concentrated H2So4 and viewed the test tube vertically down.	No Brown gas is evolved	Present

6.	**Test For Sulphide:** 1gm of the substance is treated with 2ml of con. HCL	No Rotten Egg Smelling gas evolved	Absent
7.	**Test For Fluoride & Oxalate:** 2ml of extract is added with 2ml of dil. Acetic acid and 2ml dil.calcium chloride solution and heated**.**	No Cloudy appearance	Absent
8.	**Test For Nitrite:** 3drops of the extract is placed on a filter paper, on that-2 drops of dil.acetic acid and 2 drops of dil. Benzidine solution is placed.	No Characteristic changes	Absent
9.	**Test For Borate:** 2 Pinches (50mg) of the substance is made into paste by using dil.sulphuric acid and alcohol (95%) and introduced into the blue flame.	Bluish green colour flame not appeared	Absent
	II. Test For Basic Radicals		
1.	**Test For Lead:** 2ml of the extract is added with 2ml of dil.potassium iodine solution.	No Yellow Precipitate is obtained.	Absent
2.	**Test For Copper:** **a.** One pinch (50mg) of substance is made into paste with con. HClin a watch glass and introduced into the non-luminuous part of the flame.	No Blue colour flame No Blue colour precipitate formed.	Absent
3.	**Test For Aluminium:** To the 2ml of extract dil.sodium hydroxide is added in 5 drops to excess.	No Yellow colour appeared	Absent

4.	**Test For Iron:** a.To the 2ml of extract add 2ml of dil.ammonium solution b.To the 2ml of extract 2ml thiocyanate solution and 2ml of con HNo3 is added	Mild Red colour appeared	Present
5.	**Test For Zinc:** To 2ml of the extract dil.sodium hydroxide solution is added in 5 drops to excess and dil.ammonium chloride is added.	White precipitate is not formed	Absent
6.	**Test For Calcium:** 2ml of the extract is added with 2ml of 4% dil.ammonium oxalate solution	Cloudy appearance and white precipitate is obtained	Present
7.	**Test For Magnesium:** To 2ml of extract dil.sodium hydroxide solution is added in drops to excess.	No White precipitate is obtained	Absent
8.	**Test For Ammonium:** To 2ml of extract 1 ml of Nessler's reagent and excess of dil.sodium hydroxide solution are added.	No Brown colour appeared	Absent
9.	**Test For Potassium:** A pinch (25mg) of substance is treated of with 2ml of dil.sodium nitrite solution and then treated with 2ml of dil.cobalt nitrate in 30% dil.glacial acetic acid.	No Yellowish precipitate is obtained.	Absent
10.	**Test For Sodium**: 2 pinches (50mg) of the substance is made into paste by using HCl and introduced into the blue flame of Bunsen burner.	No Yellow colour flame appeared	Absent

11.	**Test For Mercury**: 2ml of the extract is treated with 2ml of dil.sodium hydroxide solution.	No yellow precipitate is obtained	Absent
12.	**Test For Arsenic:** 2ml of the extract is treated with 2ml of dil.sodium hydroxide solution.	No brownish red precipitate is obtained	Absent
	III. Miscellaneous		
1.	**Test For Starch:** 2ml of extract is treated with weak dil.iodine solution	No Blue colour developed	Absent
2.	**Test For Reducing Sugar:** 5ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 minutes and added 8 to 10 drops of the extract and again boil it for 2 minutes. The colour changes are noted.	Brick red colour not developed	Absent
3.	**Test For The Alkaloids**: a) 2ml of the extract is treated with 2ml of dil.potassium lodide solution. b) 2ml of the extract is treated with 2ml of dil.picric acid. c) 2ml of the extract is treated with 2ml of dil.phosphotungstic acid.	. No Yellow colour developed	- Absent
4.	**Test For Tannic Acid:** 2ml of extract is treated with 2ml of dil.ferric chloride solution	No black precipitate is obtained	Present

5.	**Test For Unsaturated Compound:** To the 2ml of extract 2ml of dil.Potassium permanganate solution is added.	Potassium permanganate is not decolourised	Absent
6.	**Test For Amino Acid:** 2 drops of the extract is placed on a filter paper and dried well. 20ml of Biurette reagent is added.	No Violet colour developed	Absent
7.	**Test For Type Of Compound:** 2ml of the extract is treated with 2 ml of dil.ferric chloride solution.	No green colour developed No red colour developed No violet colour developed No blue colour developed	Absence of oxy quinole pinephrine and pyro catechol. Anti pyrine, Aliphatic amino acids and meconic acid are absent Apomorphine salicylate and Resorcinol are absent. Morphine, Phenol cresol and hydrouinone are absent

Interpretation of results

S.NO	CONSITUENTS	INFERENCE
1.	**Silicate**	Absent
2.	**Carbonate**	Absent
3.	**Copper**	Absent
4.	**Sodium**	Absent
5.	**Sulphate**	Present
6.	**Chloride**	Absent
7.	**Phosphate**	Absent
8.	**Carbonate**	Absent
9.	**Fluoride**	Absent
10.	**Oxalate**	Absent
11.	**Nitrate**	Present
12.	**Sulphide**	Absent
13.	**Nitrite**	Absent
14.	**Borate**	Absent
15.	**Lead**	Absent
16.	**Copper**	Absent
17.	**Aluminium**	Absent
18.	**Iron**	Present
19.	**Zinc**	Absent
20.	**Calcium**	Present

21.	**Magnesium**	Absent
22.	**Ammonium**	Absent
23.	**Sodium**	Absent
24.	**Mercury**	Absent
25.	**Arsenic**	Absent
26.	**Starch**	Absent
27.	**Reducing Sugar**	Absent
28.	**Alkaloids**	Absent
29.	**Tannic acid**	Present
30.	**Unsaturated Compound**	Present
31.	**Amino acids**	Absent

PHYSIOCHEMICAL PROPERTIES OF PARANGIPATTAI RASAYANAM

Table-1.

Colour characters of Parangipattai rasayanam.

S No	Solvent used	Under ordinary light	Under ultra violet light
1	PPM	**Brown**	**Brown**

PPM-Powdered plant material

Table-2.

Physicochemical properties of Parangipattai rasayanam.

S No.	Parameters	Values obtained (%w/w)	Heavy/ toxic metals	
1	Total ash value	7.23	Lead	BDL
2	Acid insoluble ash	0.77	Cadmium	BDL
3	Water soluble ash	8.99	Mercury	BDL
4	Moisture content	10.12	Arsenic	BDL
5	Foreign organic matter	5.3	Volatile oil	BDL
6	Crude fibre content	20.5		
7	Alcohol soluble extractive	8.3		
8	Water soluble extractive	10.16		

Table-3.

Colour, nature and percent yields of extracts of Parangipattai rasayanam.

S.no.	Extract Solvents	Colour	TLC/GC (PEAKS)	Nature	% Yield(w/w)	SEM-Micro graph partical size range in micron	pH
1	Water	brown	**5**	**Solid**	51	8 -17 micron	7.2 -7.3

Table-4.

Preliminary phytochemical analysis of different extracts of Parangipattai rasayanam

S.no	Phytoconstituents	Aqueous
1	Alkaloids	+
2	Flavonoids	+
3	Saponins	-
4	Glycosides	+
5	Carbohydrates	+
6	Amino acids	+
7	Triterpenoids	-

+ = Present, − = Absent

SOPHISTICATED ANALYTICAL INSTRUMENT FACILITY

IITM, CHENNAI-36

HR SEM-METHODOLOGY:

An SEM is essentially a high magnification microscope, which uses a focussed scanned electron beam to produce images of the sample, both top-down and, with the necessary sample preparation, cross-sections. The primary electron beam interacts with the sample in a number of key ways:-

- Primary electrons generate low energy secondary electrons, which tend to emphasize the topographic nature of the specimen.
- Primary electrons can be backscattered which produces images with a high degree of atomic number (Z) contrast.
- Ionized atoms can relax by electron shell-to-shell transitions, which lead to either X-ray emission or Auger electron ejection. The X-rays emitted are characteristic of the elements in the top few μm of the sample.

SAMPLE PREPARATION:

Sample preparation can be minimal or elaborate for SEM analysis, depending on the nature of the samples and the data required. Minimal preparation includes acquisition of a sample that will fit into the SEM chamber and some accommodation to prevent charge build-up on electrically insulating samples. Most electrically insulating samples are coated with a thin layer of conducting material, commonly carbon, gold, or some other metal or alloy. The choice of material for conductive coatings depends on the data to be acquired: carbon is most desirable if elemental analysis is a priority, while metal coatings are most effective for high resolution electron imaging applications. Alternatively, an electrically insulating sample can be examined without a conductive coating in an instrument capable of "low vacuum" operation.

The SEM is carried out by using FEI-Quanta FEG 200-High Resolution Instrument.

Resolution : 1.2 nm gold particle separation on a carbon substrate

Magnification: From a min of 12x to greater than 1, 00,000 X

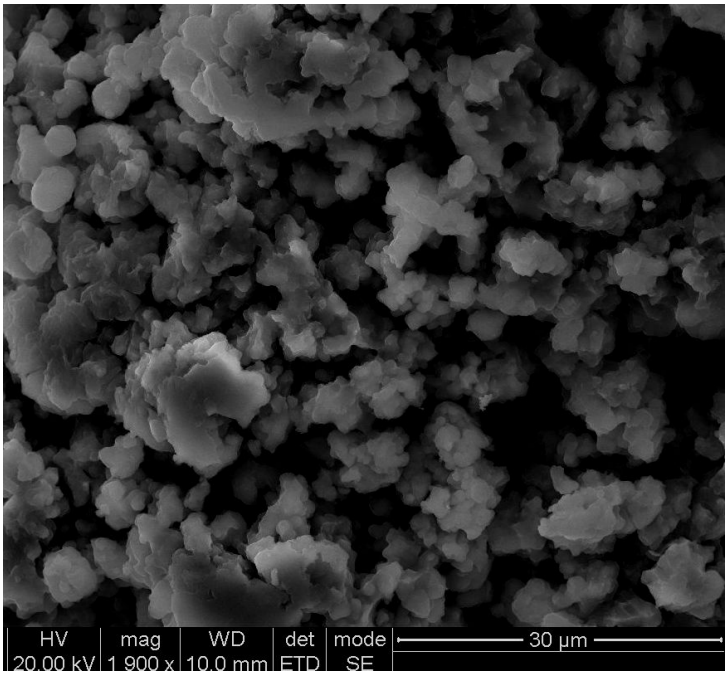
Application : To evaluate grain size, particle size distributions, material homogeneity and inter metallic distributions.

Experimental Procedure: Done at SAIF, IIT Madras, Chennai-36

Sample preparation:

Sample preparation can be minimal or elaborate for SEM analysis, depending on the nature of the samples and the data required. Minimal preparation includes acquisition of a sample that will fit into the SEM chamber and some accommodation to prevent charge build-up on electrically insulating samples. Most electrically insulating samples are coated with a thin layer of conducting material, commonly carbon, gold, or some other metal or alloy. The choice of material for conductive coatings depends on the data to be acquired: carbon is most desirable if elemental analysis is a priority, while metal coatings are most effective for high resolution electron imaging applications. Alternatively, an electrically insulating sample can be examined without a conductive coating in an instrument capable of "low vacuum" operation.

SEM – Micro graph partical size



TOXICOLOGICAL EVALUVATION OF PARANGIPATTAI RASAYANAM

ACUTE TOXICITY STUDY OF PARANGIPATTAI RASAYANAM

[WHO guidelines, 1993]

Principle:

Acute toxicity was carried out in Swiss albino mice with a single exposure of 10 times of the recommended therapeutic dose of test compound. The study duration was 14 days.

Animal species : Swiss albino mice

Age / Weight / Size : 6 weeks. Mice-20-25 gms.

Gender : Both male and female

Number of Animals : Mice: 20

Acclimatization Period : 7 Days

S.No	Group	No of mice
1	Vehicle control	10 (5 male, 5 female)
2	Toxic dose 10X therapeutic dose (180mg)	10 (5 male, 5 female)

Test Animals

Test animals were obtained from the animal laboratory of the King institute, Chennai and stocked at Animal house, National institute of Siddha, Chennai. All the animals were kept under standard environmental condition (27+ or – 2 degree c).The animals had free access to water and standard pellet diet (Sai meera foods pvt.ltd, Bangalore).The principles of laboratory animal care were followed and the Institutional ethical committee approved the use of animals and the study design **1248/ac/09/CPCSEA/4-08/2011 - 20/12/2011.**

Route of administration:

Oral route was selected, because it is the normal route of clinical administration.

Test substance and vehicle

The Parangipattai rasayanam is brownish colour .The test substance was insoluble in water. In order to the test drug was mix with milk

Administration of doses:

Parangipattai rasayanam was Mix with milk ,with uniform mixing and it was administered to the group's in a single oral dose. The control groups received equal volume of the vehicle. The animals were weighed before giving the drug. The dose level was calculated according to body weight, and surface area. It was converted to animal dose (180mg) and then administered. The principle of laboratory animal care was followed.

Observations

Observations were made and recorded systematically and continuously observed as per the guideline after substance administration. Animals were observed individually. Visual observations included skin changes, alertness, grooming, aggressiveness, sensitivity to sound, touch and pain, restlessness, tremors, convulsion, righting reflex, gripping reflex, pinna reflex, corneal reflex, writhing reflex, papillary reflex ,urination, salivation, lacrimation for first 4 hrs, then periodically during the first 24 hrs. Animals were observed for body weight and mortality for 14 days. If animals dye during the period of study, the animals were sacrificed. At the end of the 14^{th} day all animals were sacrificed and necroscopy was done.

Body Weight

Individual weight of animals were determined before the test substance was administered and daily for 14 days. Weight changes were calculated and recorded. At the end of the test surviving animals were weighed and sacrificed.

Results: Parangipattai rasayanam at the dose 180mg/animal did not exhibit any mortality in mice.

No behavior changes were noted for the first 4 hours and for the next 24 hours and throughout the study period of 14 days. No weight reduction was noted before and after the acute study duration. Reflexes were found to be normal before and after the study. All other observations were found to be normal before and after the study. In Necropsy, the organs of the animal such as Liver, Heart, Lungs, Pancreas, Spleen, Stomach, Intestine, Kidney, Urinary bladder, Uterus all appeared normal.

SUBACUTE TOXICITY STUDY OF PARANGIPATTAI RASAYANAM:

Animals	**:**	Male and Female Wistar albino rats
Age	**:**	6-8 weeks
Weight	**:**	150-200 gms
Gender	**:**	Both male and female
Number of animals	**:**	Rat: 40
Acclimatization period	**:**	7 Days
Clinical duration	**:**	28 days

S. No	Group	No of Rats
1	Vehicle control	10 (5male,5 female)
2	1XTherapeutic dose (180mg)	10 (5male,5 female)
3	5XTherapeutic dose (900mg)	10(5male,5 female)
4	10XTherapeutic dose(1800mg)	10(5male, 5 female)

Animal source:

Test animals were obtained from the animal laboratory of the King institute, Chennai, and stocked at Animal house, National Institute Of Siddha, Chennai. All the animals were kept under standard environmental condition (27+ or – 2 degree c) .The animals had free access to water and standard pellet diet (Sai meera foods pvt.ltd, Bangalore). The principles of laboratory animal care were followed and the Institutional ethical committee approved the use of animals and the study design. **1248/ac/09/CPCSEA/4-08/2011 - 20/12/2011** .

Identification of animal:

By cage number, animal number and individual marking on fur.

Housing and Environment:

The animals were housed in polypropylene cages provided with bedding of husk .Dark and light cycle each of 12 hours.

Administration period:

The period of administration of the test substance to animals depends on the expected period of clinical use. Since the clinical dose of the test drug is 28 days and as per WHO guidelines.

Dose selection:

The results of acute toxicity studies in Swiss albino mice indicated that **Parangipattai rasayanam** was non toxic and no behavioral changes, mortality was observed. On the basis of these results, the doses were selected for the study as per WHO guidelines.

Preparation and administration of dose:

Parangipattai rasayanam was mixed with milk. It was administered to animals at dose levels of 1Xtherapeutic dose (180mg), 5XTherapeutic dose (900mg) and 10XTherapeutic dose (1800mg).The control animals were administered milk only. Administration was by oral (gavage) once a day for 28 days.

METHODOLODY:

Randomization, numbering and grouping of animal:

The animals were randomly divided into four groups for dosing up to 28 days. Each group consist of 10 animals (5 per sex in each group) were allowed acclimatization period of 7 days to laboratory conditions prior to the initiation of treatment. Each animal was fur marked with picric acid. The females were nulliparous and non pregnant.

OBSERVATION:

Experimental animals were kept under observation throughout the course of study for the following:

Body weight:

Weight of each rat was recorded on day one and at weekly intervals throughout the course of study and at termination to calculate relative organ weights. From the data mean body weights and percent body gain were calculated.

Food and water consumption:

The quantity of food consumed by groups consisting of an animal for different doses were recorded at weekly intervals. Food consumed per animal was calculated for control and the treated dose groups.

Clinical sings:

All animals were observed daily for clinical signs. The time of onset, intensity and duration of the symptom if any were recorded

Mortality:

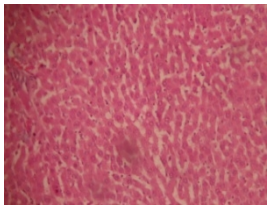
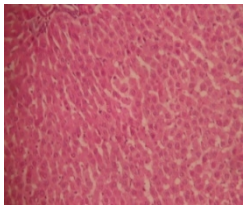
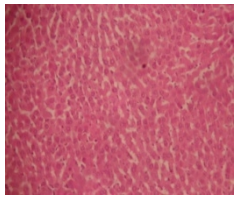
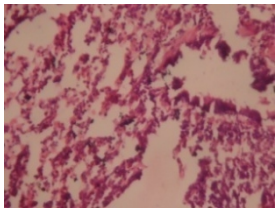
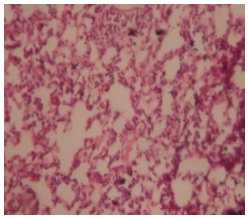
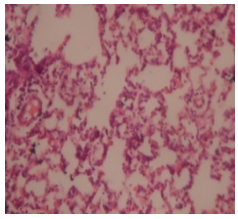
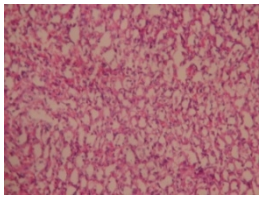
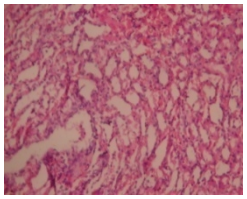
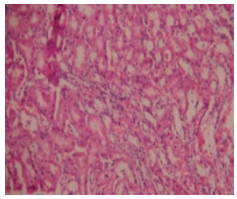
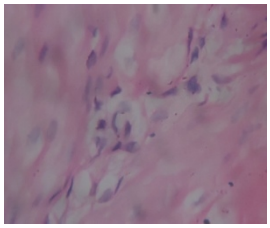
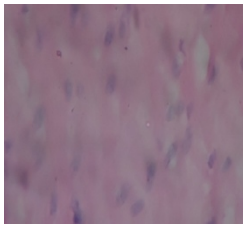
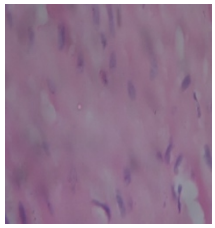
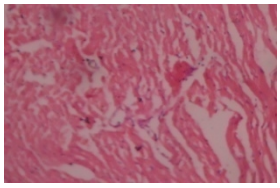
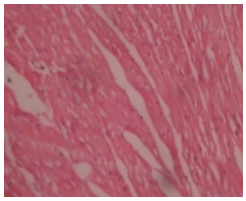
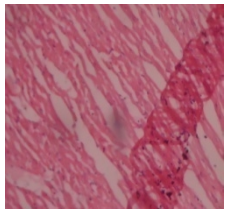
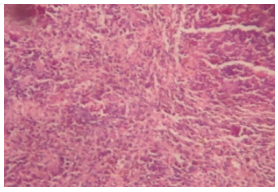
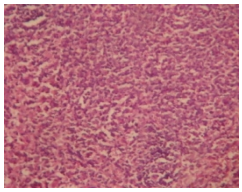
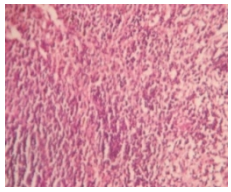
All animals were observed twice daily for any mortality during entire course of study.

HISTOPATHOLOGY:

Tissue samples of organs from control and treated animals were preserved in 10% formalin for preparation of sections using microtome. The organs included liver, kidneys, heart, lungs and stomach of the animals were preserved and they were subjected to histopathological examination.

The organ pieces (3-5 micron) were fixed in 10% formalin for 24 hours and washed in running water for 24 hours . Samples were dehydrated in tissue processor and then cleaned in benzene to remove absolute alcohol .Embedding was done by passing the cleared sample through three cups containing molten paraffin at 50 degree c and then a cubical block of paraffin made by the L moulds it was followed by microtome and the slides were stained with haematoxylin–eosin stain .Stained sections of each organ were examined under light microscope at high (40X) power magnification. All the histo pathological slides were prepared at Dept .of. Pathology, vels university, Chennai.

HISTOPATHOLOGY PHOTOS

	GROUP – I CONTROL	GROUP – II (5 X)	GROUP – III (10 X)
LIVER			
LUNGS			
KIDNEY			
STOMACH			
HEART			
SPLEEN			

RESULT:

180MG TREATED (Low dose)

Kidneys: shows normal renal tissue with glomeruli and tubules.

Spleen: shows normal spleen with lymphoid aggregation.

Liver: shows almost normal hepatocytes and occasional binucleate cells.

Stomach: shows normal mucosal glands.

Lungs : shows normal alveoli.

Heart: shows normal cardiac muscle bundles.

Intestine: Shows normal Intestinal mucosal lining with mild exudates.

Pancreas: shows normal acini with islets of β-cells

Impression : normal study

900MG TREATED (Mid dose)

Kidneys: shows renal tissue with focal tubular damage, interstitial inflammatory collection. Glomeruli shows epithelial proliferation.

Liver: shows hepatocytes with focal mild fatty change.

Spleen: shows congestion with lymphoid hyperplasia.

Stomach: shows near normal mucosal gland with mild exudates.

Lungs : shows congested alveolar wall with mild thickening and mild emphysematous changes.

Pancreas: shows pancreas with acini and normal islets.

Heart: shows congestion and mild inflammatory infiltration in between cardiac muscle bundles.

Intestine: Shows normal Intestinal mucosal lining with mild exudates.

Impression : normal study

1800MG TREATED (High dose)

Stomach: shows stomach with superficial erosion and congestion.

Heart: shows hypertrophic cardiac muscle bundles.

Spleen: shows lymphoid hyperplasia.

Liver: shows marked dilatation of sinusoids, degeneration of hepatocytes, necrosis.

Kidneys : shows renal tissue with tubular epithelial damage.

Pancreas: shows atrophic islet cells.

Lungs : shows congestion, narrowed alveolar space and thickened alveolar wall.

Intestine: Shows normal Intestinal mucosal lining with mild exudates.

Impression : normal study.

NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47

AYOTHIDASAR PANDITHAR HOSPITAL

DEPARTMENT OF MARUTHUVAM

A CLINICAL TRIAL TO ASSESS THE THERAPEUTIC EFFICACY OF PARANGIPATTAI RASAYANAM & LASUNATHY THAILAM in KUMBAVATHAM (PERIARTHRITIS SHOULDER)

FORM I SCREENING & SELECTION PROFORMA

REG NO: 32101208/2012-13

1. SI NO:-----– 2 OP /IP NO: -------- 3.NAME :---------- 4.RELIGION : H / C / M / O

5. AGE:------- 6.GENDER :------- 7.OCCUPATION :--------- 8. INCOME : ---------

INCLUSION CRITERIA

- Age 25-65 yrs Yes/No
- Sex M/F
- Patients having symptoms of Acute shoulder joint pain, benumbed feeling and wasting in the shoulder region and arms, restricted movements of upper limb, loss of abduction and forward flexion followed by stiffness of the shoulder joint and dizziness. Yes/No
- Patient willing to under go lab and radiological investigations Yes/No
- Patient willingness for consent to include in the trial Yes/No

EXCLUSION CRITERIA

Rheumatoid arthritis	Y/N	Pregnancy &lactation	Y/N	Use narcotic drugs	Y/N
Renal diseases	Y/N	Diabetes mellitus	Y/N	Cervical spondylosis	Y/N
Hypertension	Y/N	Cardiac diseases	Y/N	Any other illness	Y/N

ADMITTED TO TRAIL : YES ☐ NO ☐ If Yes Serial NO: ☐

Date:

Signature of the Investigator: Signature of the HOD

Signature of the Lecturer:

NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47
AYOTHIDASAR PANDITHAR HOSPITAL
DEPARTMENT OF MARUTHUVAM

A CLINICAL TRIAL TO ASSESS THE THERAPEUTIC EFFICACY OF PARANGIPATTAI RASAYANAM & LASUNATHY THAILAM in KUMBAVATHAM (PERI ARTHRITIS SHOULDER)

FORM I A - HISTORY PROFORMA ON ENROLLMENT

REG NO: 32101208/2012-13

1. Serial No : _____ 2. OP/IP No:----------

3. Name: _____ 4. Gender: Female/male

5. Age (years): _____ DOB ☐☐ ☐☐ ☐☐☐☐
Date Month Year

6.Address: ----------

7.A.Occupation: ---------- B. Nature of work ----------

8. Educational Status: A) Illiterate ☐ B)Literate ☐

9.Height: cms 10.Weight: kg

11. Complaints and Duration:

_____

_____

_____

_____

12. Habit of

A) Smoking	1. Yes; duration _____ years;	Number-	2.No
B) Alcoholism	1. Yes; duration _____ years;	Quantity- ml	2.No
C) Tobacco chewing	1. Yes; duration _____ years		2.No
D) Betel chewing	1. Yes; duration _____ years		2.No

13.Dietry style: A.Pure vegetarian ☐ B.Non-vegetarian ☐ C. Mixed diet ☐

14. Drug History: Had the patient been treated before with allopathy drug? A) Yes ☐ B)No ☐

Signature of the investigator

Signature of the lecturer Signature of HOD

NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47
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A CLINICAL TRIAL TO ASSESS THE THERAPEUTIC EFFICACY PARANGIPATTAI RASAYANAM & LASUNATHY THAILAM in KUMBAVATHAM (PERI ARTHRITIS SHOULDER)

FORM II AND II-A CLINICAL ASSESSMENT ON ENROLLMENT AND ON VISITS

1. S NO ---------- **2. OP/IP NO ----------** **REG NO: 32101208/2012-13**

3. NAME ---------- ---------- **4.GENDER M/F**

5. DATE OF ASSESSMENT : ----------

Initial (0th day) ☐ **12th day** ☐ **24th day** ☐

SIDDHA SYSTEM OF EXAMINATION

1. ENVAGAI THERVU: [EIGHT-FOLD EXAMINATION]

I. NAADI: [PULSE PERCEPTION]

	0th day	12th day	24th day		0th day	12th day	24th day
Vali				Iyya vali			
Azhal				Vali Iyyam			
Iyyam				Azhal Iyyam			
Vali Azhal				Iyya Azhal			
Azhal vali							

II. NAA:[TONGUE]

	0th Day	12th Day	24th Day
Colour	Dark / Yellow/Red / Pale/Normal	Dark/Yellow/ Red/Pale/Normal	Dark/Yellow/ Red/Pale/Normal
Taste	Sweet/Bitter/Sour Pungent/None	Sweet/Bitter/Sour Pungent/None	Sweet/Bitter/Sour Pungent/None
Coating	Present/Absent	Present/Absent	Present/Absent

Fissure	Present/Absent	Present/Absent	Present/Absent
Saliva	Normal/Increased/ Decreased	Normal/Increased Decreased	Normal/Increased/ Decreased
Dryness	Present/Absent	Present/Absent	Present/Absent
Glossitis	Present/Absent	Present/Absent	Present/Absent
Baldness	Present/Absent	Present/Absent	Present/Absent

III.NIRAM: [COMPLEXION]

0th Day	12th day	24th Day
Dark/Yellow tinted/Wheatish brown / Pale	Dark/Yellow tinted / Wheatish brown/ Pale	Dark/Yellow tinted/ Wheatish brown / Pale

IV.MOZHI: [VOICE]

0^{th} Day	12th day	24^{th} Day
Medium/High Low pitched	Medium/High/ Low pitched	Medium/High/ Low pitched

V.VIZHI: [EYES] (Lower palpabrel conjunctiva)

0^{th} Day	12th day	24^{th} Day
Yellow Red/ Pale/Normal	Dark/Yellow Red/ Pale/Normal	Dark/Yellow Red/ Pale/Normal

VI. MALAM; [BOWEL HABITS / STOOLS]

	0^{th} Day	12^{th} Day	24^{th} Day
Colour	Dark/ Yellow/ Pale/Others	Dark/ Yellow/ Pale	Dark/ Yellow Pale
Consistency	Solid/Semisolid Watery	Solid/Semisolid Watery	Solid/Semisolid Watery
Stool bulk	Normal/Reduced	Normal/Reduced	Normal/Reduced
Constipation	Present/Absent	Present/Absent	Present/Absent
Diarrhoea	Present/Absent	Present/Absent	Present/Absent

VII. URINE EXAMINATION:

NEERKURI	0th Day	12th Day	24 th Day
Niram [Colour]	White/Yellowish/ Strawcoloured/ Crystal clear	White/Yellowish/ Strawcoloured Crystal clear	White/Yellowish/ Straw coloured/ Crystal clear
Manam [Odour]	Present Absent	Present Absent	Present Absent
Nurai [Froth]	Nil Reduced/Increased	Nil Reduced/Increased	Nil Reduced/Increased
Edai [Sp.gra]	Normal Increased/Reduced	Normal Increased/Reduced	Normal Increased/Reduced
Enjal [Deposits]	Present/ Absent	Present/ Absent	Present/ Absent
Volume	Normal Increased/Reduced	Normal Increased/Reduced	Normal Increased/Reduced

VIII.

NEIKURI	0th day	12th day	24th day
Serpentine fashion			
Annular/Ringed fashion			
Pearl beaded fashion			
Mixed fashion			
Other fashion			

SPARISAM: [PALPATORY PERCEPTION]

0th Day	12th Day	24th Day
Warmth/Cold/Normal Sweat	Warmth/ Cold/Normal Sweat	Warmth/ Cold/Normal Sweat

5. THEGI: [TYPE OF BODY CONSTITUTION]

Vatham predominant		Kabam predominant	
Pitham predominant		Thondha udal	

6.NILAM: [LAND WHERE PATIENT LIVED MOST]

Kurinji ☐ Mullai ☐ Marutham ☐ Neithal ☐ Palai ☐

(Hilly terrain) (Forest range) (Plains) (Coastal belt) (Arid regions)

7. KAALAM

Kaarkalam- ☐ Pinpanikalam ☐

Koothirkalam- ☐ Ilavenil ☐

Munpanikalam - ☐ Muthuvenil ☐

8. GUNAM

Sathuvam ☐ Rasatham ☐ Thamasam ☐

9. IMPORIGAL (SENSORY ORGANS)

	0^{th} day	12^{th} day	24^{th} day
Mei (Skin)			
Vai (Buccal Cavity)			
Kann (Eye)			
Sevi (Ear)			
Mooku (Nose)			

10. KANMENDRIYAM (MOTOR ORGANS)

	0^{th} day	12^{th} day	24^{th} day
Kai (upper limb)			
Kaal (lower limbs)			
Vai (buccal cavity)			
Eruvai (excretory organs)			
Karuvai (reproductive organs)			

11. KOSANGAL (Sheath)

	0^{th} day	12^{th} day	24^{th} day
Annamaya Kosam			
Pranamaya kosam			
Manomaya kosam			

Vignanamaya kosam			
Ananthamaya kosam			

12. MUKKUTRAM: [AFFECTION OF THREE HUMORS]

A)VATHAM:

	0^{th} day	12^{th} day	24^{th} day
Praanan			
Abaanan			
Samaanan			
Udhaanan			
Viyaanan			
Naagan			
Koorman			

Kirukaran			
Devathathan			
Dhananjeyan			

B) PITHAM:

	0^{th} day	12^{th} day	24^{th} day
Anarpitham			
Prasakam			
Ranjakam			
Aalosakam			
Saathakam			

C) KABAM:

	0^{th} day	12^{th} day	24^{th} day
Avalambagam			

Kilethagam			
Pothagam			
Tharpagam			
Santhigam			

13. SEVEN DHATHUS: (7 SOMATIC COMPONENTS)

	0^{th} day	12^{th} day	24^{th} day
Saaram [Chyme]			
Senneer [Blood]			
Oon [Muscle]			
Kozhuppu [Fat]			
Enbu [Bones]			
Moolai [Bonemarrow]			

Sukkilam/Suron itham [Genital discharges]			

14. SYSTEMIC EXAMINATION:

	0^{th} day	12^{th} day	24^{th} day
LOCOMOTOR SYSTEM			
CARDIO VASCULAR SYSTEM			
RESPIRATORY SYSTEM			
GASTRO INTESTINAL SYSTEM			
CENTRAL NERVOUS SYSTEM			
UROGENITAL SYSTEM			
ENDOCRINE SYSTEM			

15. GENERAL EXAMINATION:

	0^{th} day	12^{th} day	24^{th} day
Height (cms)			
Weight (kg)			
Temperature(°F)			
Pulse rate (per min)			
Heart rate (per min)			
Respiratoryrate(per min)			
Blood pressure(mm/Hg)			
Pallor			
Jaundice			
Cyanosis			
Lymphadenopathy			
Pedal edema			
Clubbing			
Jugular vein pulsation			

16. CLINICAL SYMPTOMS

S.NO	CLINICAL SYMPTOMS	0 th day	12^{th} day	24^{th} day
1.	Acute Pain present in shoulder joints			
2.	Swelling present in shoulder joints			
3.	benumbed feeling of shoulder joint			
4.	Restricted movements (Fully/Partial/No)			
5.	Minimal tenderness			

Clinical examination of shoulder joint

I. INSPECTION

SNO		0th day	12th day	24th day
1	Attitude:			
2	Shoulder joint swelling			
3	Skin over the shoulder joints			
4	Muscle wasting			

II PALPATION

SNO		0th day	12th day	24th day
1	Tenderness			
2	Local heat			

III. MOVEMENTS

A. HEALTH ASSESSMENT QUESTIONNAIRE:

SNO		0th day	12th day	24th day
1	**PAIN** **A. Onset**: Sudden/Gradual			
	B. Early morning Stiffness (Present/absent)			
	C. Nature of pain (Mild/ Moderate/ Severe)			
	D. Aggravating factor- Movement (Yes/No)			
	E. Relieving factor –Rest (Yes/No)			
	G. Tenderness (Present/absent)			
2	**Restriction:** (Fully/Partial/No) **Shoulder joints**			

Date :
Station:

Signature of the Investigator:

Signature of the Lecturer: Signature of the HOD

NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47
AYOTHIDASAR PANDITHAR HOSPITAL
DEPARTMENT OF POTHUMARUTHUVAAN
OPEN CLINICAL TRIAL TO ASSESS THE
THERAPEUTIC EFFICACY OF THE SIDDHA DRUG PARANGIPATTAI RASAYANAM & LASUNATHY THAILAM in KUMBAVATHAM (PERI ARTHRITIS SHOULDER)

FORM III
LABORATORY INVESTIGATION ON ENROLLMENT AND CONCLUSION OF TRIAL

1. OP/IP No: _____ 2.S. No: _____ 3.Reg no: 32101208/2012-13

4. Name: _____ 5. Age: _____ years 6. Gender: M/F

BLOOD INVESTIGATION		NORMAL VALUES	BEFORE TMT	AFTER TMT
HB(gms%)		M:13-18 W:11-16		
T.RBC(milli/cu.mm)		M:4.5-6.5 W:3.5-5.5		
ESR (mm)	½ hr.	-		
	1 hr.	M:0-10 W:0-20		
T.WBC (/cu.mm)		4000-11000		
DIFFERENTIAL COUNT (%)	Polymorphs	40-75		
	Lymphocytes	20-35		
	Monocytes	2-10		
	Esonophils	1-6		
	Basophils	0-1		

Blood Investigation		Normal Values	BeforeTMT Date:	After TMT Date
Blood glucose (mg/dl)	Fasting	80-120		
	PP	<130		
Lipid profile (mg/dl)	Serum cholesterol	150-250		
	HDL	30-60		
	LDL	Upto 130		
	VLDL	40		
	TGL	Upto 160		
RFT (mg/dl)	Blood urea	16-50		
	Serum creatinine	0.6-1.2		
	Serum Uric acid	M:3-9 W: 2.5-7.5		
LFT (mg/dl)	Total bilirubin	0.3-1		
	Direct bilirubin	0.1-0.3		
	Indirect bilirubin	0.2-0.8		
	Serum total protein	6-8		
	Serum Albumin	3.5-5.5		
	Serum globulin	2-3.5		
	Serum calcium	9-11		
	Serum phosphorous	2-5		
	SGOT (IU/L)	6-18		
	SGPT (IU/l)	3-26		
	Alkaline phosphatase (kingÅ units)	3-12		

Other investigation	Before TMT Date:	After TMT Date:
RA factor		
CRP		

URINE INVESTIGATION	Before TMT(with Date)	After TMT (With Date)
Albumin		
Fasting sugar		
PP sugar		
Deposits		
MOTION TEST		
Ova		
Cyst		
Occult blood		

Specific investications :

- X - Ray of affected Shoulder joints (AP and supero - inferior view of shoulder joint)

ECG :

Date :

Station:

Signature of the Investigator:

Signature of the Lecturer: **Signature of the HOD**

N ATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47
AYOTHIDASAR PANDITHAR HOSPITAL
DEPARTMENT OF POTHUMARUTHUVAM

A CLINICAL TRIAL TO ASSESS THE THERAPEUTIC EFFICACY PARANGIPATTAI RASAYANAM & LASUNATHY THAILAM in KUMBAVATHAM (PERI ARTHRITIS SHOULDER)

FORM IV –A (DRUG COMPLIANCE FORM)

S. NO: OPD/IPD NO : NAME : REG NO: 32101208/2012-13
Name Of The Drug : PARANGIPATTAI RASAYANAM (INTERNAL) & LASUNATHY THAILAM (EXTERNAL)

Drugs issued: (Nos) Drugs issued: (Nos)
Drugs returned: (Nos) Drugs returned: (Nos)

S.NO	DATE	DRUG TAKEN TIME			
		MORNING/TIME		EVENING/TIME	
Day 1					
Day 2					
Day 3					
Day 4					
Day 5					
Day 6					
Day 7					
Day 8					
Day 9					
Day 10					
Day 11					
Day 12					

Date :
Station:

Signature of the Investigator:
Signature of the Lecturer: **Signature of the HOD**

AYOTHIDASAR PANDITHAR HOSPITAL
DEPARTMENT OF POTHUMARUTHUVAM

A CLINICAL TRIAL TO ASSESS THE THERAPEUTIC EFFICACY PARANGIPATTAI RASAYANAM & LASUNATHY THAILAM in KUMBAVATHAM(PERI ARTHRITIS SHOULDER)

FORM IV –C (DRUG COMPLIANCE FORM)

S. NO: OPD/IPD NO : NAME : REG NO: 32101208/2012-13

Name Of The Drug : PARANGIPATTAI RASAYANAM (INTERNAL) & LASUNATHY THAILAM (EXTERNAL)

Drugs issued: (Nos) Drugs issued: (Nos)
Drugs returned: (Nos) Drugs returned: (Nos)

DAYS	DATE	DRUG TAKEN TIME			
		MORNING/TIME		EVENING/TIME	
Day 13					
Day 14					
Day 15					
Day 16					
Day 17					
Day 18					
Day 19					
Day 20					
Day 21					
Day 22					
Day 23					
Day 24					

Date :
Station:
Signature of the Investigator:
Signature of the Lecturer: Signature of the HOD

NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47
AYOTHIDASAR PANDITHAR HOSPITAL
DEPARTMENT OF MARUTHUVAM

A CLINICAL TRIAL TO ASSESS THE THERAPEUTIC EFFICACY PARANGIPATTAI RASAYANAM & LASUNATHY THAILAM in KUMBAVATHAM (PERI ARTHRITIS SHOULDER)

FORM IV-E
WITHDRAWAL FORM

S. NO: ---------- **OPD/ IPD NO: --------** **REG NO: 32101208/2012-13**

NAME: ---------- **AGE: --------** **GENDER: M/F**

DATE OF TRIAL COMMENCEMENT: ----------

DATE OF WITHDRAWAL FROM TRIAL: ----------

REASONS FOR WITHDRAWAL:

- Long absence at reporting : Yes/ No
- Irregular treatment: Yes/ No
- Shift of locality : Yes/No
- Increase in severity of symptoms: Yes/No
- Development of severe adverse drug reactions: Yes/No

Date :

Station:

Signature of the Investigator:

Signature of the Lecturer: **Signature of the HOD**

NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47
AYOTHIDASAR PANDITHAR HOSPITAL
DEPARTMENT OF POTHUMARUTHUVAM

A CLINICAL TRIAL TO ASSESS THE THERAPEUTIC EFFICACY PARANGIPATTAI RASAYANAM & LASUNATHY THAILAM in KUMBAVATHAM (PERI ARTHRITIS SHOULDER)

FORM –IV-F

ADVERSE REACTION FORM

Reg No:32101208/2012-13

Serial No: OP/IP No:

Name: Age: Gender: M/F

Date of trial commencement:

Date of the adverse reaction occur;

Time: Description of Adverse reaction:

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer: Signature of the HOD

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DEPARTMENT OF POTHUMARUTHUVAM

A CLINICAL TRIAL TO ASSESS THE THERAPEUTIC EFFICACY PARANGIPATTAI RASAYANAM & LASUNATHY THAILAM in KUMBAVATHAM (PERI ARTHRITIS SHOULDER)

FORM IV D
DIETARY ADVICE FORM

- **காய்கள்**

  கத்தரிபிஞ்சு,முருங்கைபிஞ்சு,,அவரைபிஞ்சு,பிரண்டை துவையல் ஆகியவை சேர்க்க வேண்டும்.

- **கீரைகள்**:

  பொன்னாங்கண்ணி,மூக்கிரட்டை,தூதுவேளை, முருங்கைகீரை,கறிவேப்பிலை, முடக்கறுத்தான், அறுகீரை, கரிசாலை ஆகியவை சேர்க்க வேண்டும்.

- **பழங்கள்**:

  மாதுளை,ஆப்பிள், பப்பாளி, ஆரஞ்சு, பேரீச்சை, அத்தி, நாவல் ,ஆகியவை சேர்க்க வேண்டும்.

- **அசைவம்**:

  வெள்ளாட்டுக்கறி, காடை, சிறு இறால் மீ ன் கத்திரிக்காய், அவரைக்காய், முதலிய பொரியல்களோடு கூட்டி தரலாம். துவரம் பருப்பு ரசம் சேர்க்க வேண்டும்.

- ஈரமில்லா தரையிலும், படுக்கையிலும் படுத்தல் வேண்டும்,
- குளிர் காற்று படும்படியான இ டத்தில் இருப்பதை தவிர்க்கவும்

சேர்க்க கூடாதவைகள்:

• சுரை	உப்பு
• பூசணி	புளிப்பு
• வெள்ளரிக்காய்	அதிக கைப்பு
• புடலை	அதிக கார்ப்பு
• பீர்க்கு	மந்தப் பொருள்
• மொச்சை	வெற்றிலை,பாக்கு
• காராமணி	புகையிலை
• உளுந்து	மது அருந்துதல்
• கொள்ளு,	பெண்போகம்
• கடுகு	

தேசிய சித்த மருத்துவ நிறுவனம், சென்னை- 47

அயோத்திதாசர் பண்டிதர் மருத்துவமனை

கும்பவாத நோய்க்கான சித்த மருந்துகளின் (பறங்கிப்பட்டை ரசாயனம் மற்றும் இலசுனாதி தைலம்) பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கான ஒப்புதல் படிவம்

ஒப்புதல் படிவம்

நான் மேற்கூறிய தகவல் படிவத்தை படித்து அல்லது படிக்க கேட்டுக் கொண்டேன். இது தொடர்பான விளக்கங்களையும் கேட்டு தெரிந்துகொண்டேன்.எந்த வித வற்புருத்தலின்றி என் சொந்த விருப்பத்தின் பேரில் என்னை இந்த ஆராய்ச்சிக்கு உட்படுத்த என் முழுமனதோடும் சுயனநினைவோடும் சம்மதம் தெரிவிக்கின்றேன். எனக்கு விருப்பம் இல்லாத பட்சத்தில் இந்த ஆராய்ச்சியில் இருந்து என்னை எப்போது வேண்டுமானாலும் விடுவித்து கொள்ளும் உரிமையை பெற்றுள்ளேன் என்பதையும் அறிவேன்.

தேதி : கையொப்பம்

இடம் : பெயர் :

தேதி சாட்சிக்காரர் கையொப்பம் :

இடம் : பெயர் :

உறவுமுறை :

NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47

AYOTHIDASAR PANDITHAR HOSPITAL
DEPARTMENT OF POTHUMARUTHUVAM

FORM IV C

PRE CLINICAL CLINICAL STUDY ON the KUMBAVAATHAM (PERIARTHRITIS SHOULDER) and the drug of choice is PARANGIPATTAI RASAYANAM (internal) and LASUNATHY THAILAM (external)

CERTIFICATE OF CONSENT

"I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have asked have been answered to my satisfaction.

I consent voluntarily to participate as a participant in this study and understand that I have the right to withdraw from the study at any time without in any way it affecting my further medical care".

"I have received a copy of the information sheet/consent form".

Date:

Signature of the participant

In case of illiterate participant

"I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely."

Date:

Signature of a witness :

Left thumb Impression of the Participant

(Selected by the participant bearing no connection with the survey team)

NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 47

AYOTHIDASAR PANDITHAR HOSPITAL
DEPARTMENT OF POTHUMARUTHUVAM

PRE CLINICAL AND CLINICAL STUDY ON KUMBA VAATHAM (Peri Arthiritis Shoulder) PARANGIPATTAI RASAYANAM (Internal), LASUNATHY THAILAM(External)

FORM IV –B (INFORMATION SHEET)

Part – A Information Sheet

I, Dr.V.VITHYAPATHI studying M.D(S) in National Institute of Siddha, Chennai. KUMBA VAATHAM is a disease affecting the morbidity and causing discomfort to the person. This condition is being treated in NIS with many Siddha formulations. As a part of M.D(S) research programme and developing new efficacious medicine, we propose to study the PARANGIPATTAI RASAYANAM (Internal), LASUNATHY THAILAM(External) formulations for treating the condition. This formulation has been mentioned in Siddha literature and empirical evidence with contemporary tools is required for documentation. You can receive medicines free of cost. The duration of treatment period is 24 days. You have to visit NIS once in every 12 days and collect the drugs for 12 days. The diagnosis tests will be carried out at free of cost. We will assess the effect of treatment after completions of days of treatment using clinical and laboratory parameters.

In this regard, we need to ask few questions. We will maintain confidentiality of your comments and data obtained from you. There will be no risk of disclosing your identity and no physical, psychological or professional risk is involved by taking part in this study.

Taking part in this study is voluntary. No compensation will be paid to you for taking part in this study. You can choose not to answer any specific question. There is no specific benefit for you if you take part of in this study, but you will be under our clinical monitoring and specific attention will be given for your help. Taking part in this study may be of benefit to the community, as it may help us to develop medicine for Kumba Vaatham. In case of any adverse symptoms during the treatment passing loosey stools,irritation in the stomach , indigestion which is expected for few patients during the treatment, shall be reported to PIs and care will be taken in NIS for relief. You can withdraw from the study at the midst of treatment period, if you are not interested to continue and you will receive our usual treatment without condition.

The information we will be collected in the study, will remain between you and the principal investigator. We will ask you a few questions through a questionnaire. We will not write your name on different forms which send to different investigating / analysis sections and we will use a code instead given by principal investigator. Only the principal investigator will know the key to

this code which will be kept in safe custody. If you agree to be the participant in this study, you will be screened as per the study protocol.

If you wish to find out more about this study before taking part, you can ask me all the questions you want or contact Dr.V.VITHYAPATHI, P.G scholar cum principal investigator of this study, attached to the National Institute of Siddha, Chennai(Mobile No. 9080180323). You can also contact the chairman / Member Secretary of ethics committee, National Institute of Siddha, Chennai-600047, Tel No.: 914422411611, for rights and participation in the study.

தேசிய சித்த மருத்துவ நிறுவனம், சென்னை 47
அயோத்திதாசர் பண்டிதர் மருத்துவமனை

கும்பவாத நோய்க்கான சித்த மருந்தின் பறங்கிப்பட்டை இரசாயனம் and இலசுனாதி தைலம் பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கான தகவல் படிவம்.

FORM IV தகவல் படிவம்

முதன்மை ஆராய்ச்சியாளர் பெயர் : Dr.வே.வித்யாபதி
நிறுவனத்தின் பெயர் : தேசிய சித்த மருத்துவ நிறுவனம்
தாம்பரம் சானடோரியம்
சென்னை- 47

Dr.வே.வித்யாபதி ஆகிய நான் தேசிய சித்த மருத்துவமனையில் பட்ட மேற்படிப்பு பயின்று வருகிறேன். கும்பவாதம் என்னும் நோயானது தோள் மூட்டுகளை பாதிக்கும் நோயாகும். இந்நோயானது தோள்பட்டை, கை முதலிய இடங்களில் வலி, நீட்டி மடக்க முடியாமை, ஆகிய குறிகுணங்கள் காணும். இந்நோய்க்கு தேசிய சித்த மருத்துவமனையில் பல சித்த மருந்துகள் பயன்படுத்தப்பட்டு வருகின்றது. சித்த மருத்துவ பட்ட மேற்படிப்பில், ஆய்வின் ஒரு பகுதியாக புதிய மருந்துகளை பயன்படுத்தும் நோக்கில் இந்நோய்க்கு பறங்கிப்பட்டை இரசாயனம் வழங்க பரிந்துரை செய்கிறோம். இந்த மருந்தின் செய்முறை, அளவு, அனுபானம் மற்றும் மருத்துவ பயன்கள் அனைத்தும் அங்கீகரிக்கப்பட்ட சித்த மருத்துவ நூலில் கூறப்பட்டுள்ளது. எந்தவித கட்டணமுமின்றி தாங்கள் இந்த மருந்தினை பெற்றுக்கொள்ளலாம். இந்த ஆய்வில் மருந்து உட்கொள்ளும் காலம் 24 நாட்கள் ஆகும். வெளி மருந்தாக இலசுனாதி தைலம் 50 மிலி 24 நாட்களுக்கு நோயுள்ள இடங்களில் வெளியே தடவ வேண்டும். வெளி நோயாளர்கள் 12 நாட்களுக்கு ஒரு முறை மருத்துவமனைக்கு வரவேண்டும். 24 நாட்கள் மருந்து உட்கொள்ளும் காலம் முடிந்த பிறகு நோய்க்கான குறிகுணங்கள் மற்றும் ஆய்வக பரிசோதனைகள் இவற்றின் முடிவுகளின் அடிப்படையில் மருந்தின் பரிகரிப்புத்திறன் கண்டறியப்படும்.
இந்த ஆய்வு சம்பந்தமாக சில கேள்விகளை தங்களிடம் கேட்க இருக்கிறேன். தங்களிடமிருந்து பெறப்படும் கருத்துக்கள் மற்றும் குறிப்புகள் அனைத்தும் நம்பிக்கையாக பதிவு செய்யப்படும்.இந்த ஆய்வில் தங்களை உட்படுத்திக்கொள்வதின் மூலம் எந்த வகையிலும் பாதிப்புக்குள்ளாகமாட்டீர்கள் என உறுதி அளிக்கிறேன்.

எந்தவித வற்புறுத்தலுமின்றி, இந்த ஆய்வில் பங்கேற்கவும், இந்த ஆய்வு சம்பந்தமாக கேட்கப்படும் கேள்விகளுக்கு பதில் கூறவும் தங்களுக்கு முழு சுதந்திரம் அளிக்கப்படுகிறது. இந்த ஆய்வில் பங்கேற்பதற்கு எந்த சன்மானமும் வழங்கப்படமாட்டாது. ஆனால், ஆய்வு முழுவதும் எனது மேற்பார்வையிலும், தங்கள் உடல்நலன் குறித்த தனி கவனத்திலும் ஆய்வு மேற்கொள்ளப்படும். கும்பவாத நோய்க்கான புதிய மருந்தின் பரிகரிப்புத்திறனை சமூகத்திற்கு உணர்த்தும் வகையில் இந்த ஆய்வு மேற்கொள்ளப்படுகிறது, இந்த ஆய்வில், மருந்து உட்கொள்ளும் காலத்தில் வயிற்றுவலி, அடிக்கடி மலம் கழிதல், உண்ட உணவு செரியாமை,போன்ற மாறுபட்ட குறிகுணங்கள் தொடர்ந்து இருக்கும் பட்சத்தில், முதன்மை ஆராய்ச்சியாளரான என்னிடம் தெரிவிக்கப்பட்டு, தேசிய சித்த மருத்துவமனையில் அதற்க்கான தீர்வு வழங்கப்படும். இந்த ஆய்வினைத் தொடர தங்களுக்கு விருப்பம் இல்லையெனில், எப்பொழுது வேண்டுமானலும் ஆய்வின் இடையில் விலகிக்கொள்ளவும், மருத்துவமனையில் வழங்கப்படும் இந்நோய்க்கான வழக்கமான மருந்துகளை பெற்றுக்கொள்ளவும் அறிவுறுத்தப்படுகிறீர்கள்.

இந்த ஆய்வில் சேகரிக்கப்படும் விபரங்கள் அனைத்தும் தங்களுக்கும் முதன்மை ஆராய்ச்சியாளரான எனக்கும் இடையில் இரகசியமாக வைக்கப்படும். கேள்வி பதில் வடிவத்தில் தங்களிடம் கேள்விகள் கேட்கப்படும். அனைத்துப் படிவங்களிலும் தங்களின் பெயர் தவிர்க்கப்பட்டு ஆய்வாளரால் தங்களுக்கென தனிக் குறியீடு வழங்கப்படும். அந்தக் குறியீடு ஆய்வாளருக்கு மட்டுமே தெரிந்ததாக இருக்கும். நீங்கள் இந்த ஆய்வில் பங்கேற்க விருப்பப்பட்டால், முன்னோட்ட ஆய்வு தகவல் படி தேர்வு செய்யப்படுவீர்கள்.

நீங்கள் இந்த ஆய்வில் பங்கேற்கும் முன், இந்த ஆய்வினைப் பற்றிய மேலும் விபரங்கள் பெற வேண்டுமென விருப்பப்பட்டால், இந்த ஆய்வின் முதன்மை ஆராய்ச்சியாளர் மற்றும் தேசிய சித்த மருத்துவமனை, பட்ட மேற்படிப்புத்துறை மாணவர் Dr.வே.வித்யாபதி ஆகிய என்னை 9080180323 என்ற எண்ணில் தொடர்பு கொள்ளலாம். மேலும், நீங்கள் இந்த ஆய்வில், உங்களது பங்கேற்பு மற்றும் உரிமை பற்றி தெரிந்து கொள்ள தேசிய சித்த மருத்துவமனை, தலைவர்/செயற்க்குழு உறுப்பினர் அவர்களையும் 91-44-22411611 என்ற எண்ணில் தொடர்பு கொள்ளலாம்.

LABORATORY PARAMETERS - CHART

BEFORE TMT

S.No	OP/IP No	A/S	HB Gm%	T.RBC milli/cu.mm	ESR mm/hr	T.WBC Cells/ cu.mm	DIFFRENTIAL COUNT					SUGAR		LIPID PROFILE				
							P %	L %	M %	E %	B %	F Mg/dl	PP Mg/dl	Serum Cholesterol Mg/dl	HDL Mg/dl	LDL Mg/dl	VLDL Mg/dl	TGL Mg/dl
1	C84939	42/M	15.1	5.4	8	8200	48	50	-	2	-	100	-	218	40	160	101	509
2	C79224	45/F	12.5	4.7	110	8200	50	42	4	4	-	100	115	217	36	151	37	186
3	C78976	44/M	14.9	5.3	4	9800	57	40	-	3	-	104	135	174	33	130	15	78
4	C38379	36/F	11.2	4.5	4	7100	60	35	-	5	-	89	115	206	38	152	16	81
5	C78090	40/M	13.7	4.5	10	6300	71	26	-	3	-	86	93	209	30	163	16	80
6	C74874	56/M	13.8	4.4	22	7200	60	35	-	5	-	96	105	242	-	-	-	303
7	C76462	49/F	10.7	4.3	16	8000	63	33	-	4	-	89	106	211	40	157	14	71
8	C83792	60/M	15.3	4.6	4	6500	62	36	-	2	-	-	161	189	32	160	27	135
9	C93208/4115	40/F	13.4	4.6	12	5300	65	30	-	5	-	89	106	153	34	74	28	143
10	C94303/4149	45/F	12.8	4.5	10	9800	50	33	-	16	-	120	151	219	37	121	35	175
11	C90904/4113	34/F	12	4.7	6	8000	59	38	-	3	-	89	103	127	36	75	28	128
12	C92197/4112	34/F	11.7	4.4	22	7700	67	30	-	3	-	91	108	130	32	68	24	160
13	C90799/4114	40/F	13.5	4.5	14	9800	64	31	-	5	-	93	106	130				
14	C83614/4119	46/F	13.7	4.7	6	9200	71	25	-	4	-	91	103	176	29	133	22	113
15	C94000/54044	60/M	13	4	10	7200	47	34	1	18	-	80	120	170	38	98	37	186
16	C63281	32/M	15.8	5.6	6	8300	53	44	-	3	-		85	138	30	82	38	191
17	C85918/4049	50/F	12	4	38	7400	59	36	-	5	-	92		170	30	106	38	194
18	B25276	50/F	11.6	4.2	70	6500	72	16	-	2	-	95	105	258	51	181	26	126
19	C75719	57/M	12.4	4.1	4	9200	49	44	1	6	-	100	121	220	45	159	16	80
20	C58864	49/F	11.9	3.7	8	5600	54	40	2	4	-	75	94	247	-	-	-	-
21	C4046	58/F	12.9	4.5	4	6600	70	26	-	4	-	100	115	246	45	148	43	216
22	C82201	58/F	11.8	3.8	26	6000	50	43	1	6	-	81		143	26	86	13	65
23	C87544	56/F	13.2	4.7	10	8800	56	40	-	4	-	102	122	228	32	140	37	189
24	C86291/4003	45/F	12.9	4.4	20	5200	50	43	1	6	-	90	114	175	32	100	26	130
25	A27878	55/F	13.2	4.3	18	8400	66	30	-	4	-	95	119	200	36	131	38	193
26	C86287/4004	53/F	11.4	4.3	26	9200	54	36	-	9	-	86	105	149	30	97	21	105
27	C76913	27/M	12.8	4.6	8	7600	59	36	-	5	-	98	100	168	35	101	32	160
28	C93202	50/M	14.1	5.2	6	11100	62	33	-	5	-	95						
29	C92105	50/M	14.1	4.7	8	7100	60	32	2	6	-	69	92	204	42	136	35	175
30	C77772	57/F	13.3	4.4	24	6000	60	33	-	6	-	101	130	148				
31	B29219	40/F	13.5	4.6	24	8100	60	37	-	3	-	103	119	219	45	131	33	168

32	C59987	35/M	16.4	6.3	4	8100	60	30	2	8	-	86	126	161	29	72	37	187
33	C81598	47/M	12.4	4.1	4	9200	49	44	1	6	-	100	121	220	45	159	16	80
34	C89682	47/F	12.9	4.5	4	6600	70	26	-	4	-	100	115	246	45	148	43	216
35	C79108	34/F	12	4.7	6	8000	59	38	-	3	-	89	103	127	36	75	28	128
36	C90700	37/M	12.9	4.4	20	5200	50	43	1	6	-	90	114	175	32	100	26	130
37	C83650	33/M	15.1	5.4	8	8200	48	50	-	2	-	100	-	218	40	160	101	509
38	C80190	40/M		14.9	5.7	22	10000	36	44	2	18	-	80	100	204	39	80	62
39	A36870	35/F	11.6	3.9	18	9000	52	46	-	2	-	83	92	152	18	145	12	64
40	C82416	51/F	11.7	4.4	12	10300	64	33	-	3	-		126	236	45	146	41	208

S.No	OP/IP No	A/S	RFT			LFT										
			Blood Urea Mg/dl	Serum Creatinine Mg/dl	Serum Uric Acid Mg/dl	Total Bilirubin Mg/dl	Direct Bilirubin Mg/dl	Indirect Bilirubin Mg/dl	Serum Total Protein Mg/dl	Serum Albumin Mg/dl	Serum Globulin Mg/dl	Serum Calcium Mg/dl	Serum Phosphorous Mg/dl	SGOT IU/L	SGPT IU/L	Alkaline Phosphatase IU/L
1	C84939	42/M	18	0.6	4.6	0.5	0.2	0.3	7.3	4.3	3	10.4	3.1	28	30	210
2	C79224	45/F	15	0.7	5	0.6	0.4	0.2	8	4	4	10.1	3.2	18	16	169
3	C78976	44/M	32	1	5.7	0.8	0.3	0.5	7.6	4.7	2.9	11.3	4.3	30	32	264
4	C38379	36/F	15	0.5	4	0.8	0.3	0.5	6	4.6	1.4	9.7	4.7	10	12	114
5	C78090	40/M	18	0.5	-	0.4	0.2	0.2	7	4.9	2.1	10	3.4	18	20	161
6	C74874	56/M	21	0.6	-	0.4	0.2	0.2	6.3	4.6	1.7	11.2	3.3	18	20	-
7	C76462	49/F	26	0.8	-	0.6	0.2	0.4	7.1	4.1	3	10.7	3.2	20	22	194
8	C83792	60/M	27	0.8	4.8	0.6	0.2	0.4	6.1	4.1	2	10.8	3.4	21	22	189
9	C93208/4115	40/F	30	0.6	4	0.4	0.2	0.2	6.8	3.8	2.8	10.8	3	16	18	170
10	C94303/4149	45/F	19	0.5	4.3	0.5	0.3	0.2	6	4	2	10.5	3.4	16	18	139
11	C90904/4113	34/F	30	0.7	2.9	0.4	0.2	0.4	6.8	3.9	2.7	11.2	2.9	18	20	174
12	C92197/4112	34/F	30	0.8	2.9	0.6	0.3	0.3	6.9	3.8	2.9	11	2.8	14	18	172
13	C90799/4114	40/F														
14	C83614/4119	46/F	12	0.6	3	0.6	0.4	0.2	5.6	3.2	2.4	10.6	3	26	27	170
15	C94000/54044	60/M	20	0.6	4.4	0.5	0.2	0.3	5.9	3	2.9	10.7	3.5	17	18	161
16	C63281	32/M	-	-	6.1	0.5	0.2	0.3	6.9	4.3	2.6	9.5	3.1	30	33	160
17	C85918/4049	50/F				0.3	0.1	0.2	6.5	4.2	2.3	10.9	3.4	19	20	165
18	B25276	50/F	20	0.6	3.1	0.4	0.2	0.2	7	4	3	10	2.3	21	20	110
19	C75719	57/M	22	0.7	-	0.4	0.2	0.2	6.8	4.2	2.6	11	2.7	17	19	192
20	C58864	49/F	-	0.4	-	-	-	-	6.4	4.2	2.2	6.8	4.3	9	11	155
21	C4046	58/F	18	0.6	4	0.4	0.2	0.2	7.4	3.4	4	11.2	3	20	21	188
22	C82201	58/F				0.5	0.2	0.3	6.9	4.9	2	10.3	3.1	20	21	159
23	C87544	56/F	18	0.5	3.3	0.4	0.2	0.2	6.9	4.3	2.6	11.7	3.2	14	17	140
24	C86291/4003	45/F	20	0.6	6.8	0.6	0.2	0.4	6.8	4.2	2.6	10.4	3.7	20	14	202
25	A27878	55/F	17	0.5	4.6	-	-	-	-	-	-	11.6	-	-	-	-
26	C86287/4004	53/F	20	0.6	6.1	0.6	0.2	0.4	7	5	2	9.6	-	10	17	187
27	C76913	27/M	23	0.7		0.6	0.3	0.3	7	4.7	2.3	11.5	3.8	19	21	180
28	C93202	50/M	22	0.6	8											
29	C92105	50/M	16	0.5	5.9	0.6	0.2	0.4	6.5	4.1	2.4	10.6	3	15	16	140
30	C77772	57/F														
31	B29219	40/F	23	0.8	4.3	0.5	0.2	0.3	7	5	2	10.6	3	10	14	214
32	C59987	35/M	20	0.6	5.7	0.5	0.2	0.3	7.8	4.8	3	10.6	3	36	26	199
33	C81598	47/M	22	0.7	-	0.4	0.2	0.2	6.8	4.2	2.6	11	2.7	17	19	192

34	C89682	47/F	18	0.6	4	0.4	0.2	0.2	7.4	3.4	4	11.2	3	20	21	188
35	C79108	34/F	30	0.7	2.9	0.4	0.2	0.4	6.8	3.9	2.7	11.2	2.9	18	20	174
36	C90700	37/M	20	0.6	6.8	0.6	0.2	0.4	6.8	4.2	2.6	10.4	3.7	20	14	202
37	C83650	33/M	18	0.6	4.6	0.5	0.2	0.3	7.3	4.3	3	10.4	3.1	28	30	210
38	C80190	40/M	313	26	0.8	7.1	0.4	0.2	6	3	3	10	2.6	17	18	150
39	A36870	35/F	21	0.6	5.6	0.6	0.2	0.4	6.2	4.1	2.1	11.6	3.7	17	18	177
40	C82416	51/F	35	1	5.6	0.5	0.2	0.3	6.9	3.9	3	10.9	3.9	13	14	205

S.No	OP/IP No	A/S	URINE				MOTION		
			Albumin	Fasting Sugar	PP Sugar	Deposits	Ova	Cyst	Occult Blood
1	C84939	42/M	-	-	-	1.2	-	-	-
2	C79224	45/F							
3	C78976	44/M	-	-	-	1.2	-	-	-
4	C38379	36/F	-	-	-		-	-	-
5	C78090	40/M	-	-	-		-	-	-
6	C74874	56/M	-	-	-		-	-	-
7	C76462	49/F	-	-	-		-	-	-
8	C83792	60/M	-	-	-		-	-	-
9	C93208/4115	40/F	-	-	-		-	-	-
10	C94303/4149	45/F	-	-	-		-	-	-
11	C90904/4113	34/F	-	-	-		-	-	-
12	C92197/4112	34/F	-	-	-		-	-	-
13	C90799/4114	40/F	-	-	-		-	-	-
14	C83614/4119	46/F	-	-	-		-	-	-
15	C94000/54044	60/M	-	-	-		-	-	-
16	C63281	32/M	-	-	-		-	-	-
17	C85918/4049	50/F	-	-	-		-	-	-
18	B25276	50/F	-	-	-		-	-	-
19	C75719	57/M	-	-	-		-	-	-
20	C58864	49/F	-	-	-		-	-	-
21	C4046	58/F	-	-	-		-	-	-
22	C82201	58/F	-	-	-		-	-	-
23	C87544	56/F	-	-	-		-	-	-
24	C86291/4003	45/F	-	-	-		-	-	-
25	A27878	55/F	-	-	-		-	-	-
26	C86287/4004	53/F	-	-	-		-	-	-
27	C76913	27/M	-	-	-		-	-	-
28	C93202	50/M	-	-	-		-	-	-
29	C92105	50/M	-	-	-		-	-	-
30	C77772	57/F	-	-	-		-	-	-
31	B29219	40/F	-	-	-		-	-	-
32	C59987	35/M	-	-	-		-	-	-
33	C81598	47/M	-	-	-		-	-	-
34	C89682	47/F	-	-	-		-	-	-
35	C79108	34/F	-	-	-		-	-	-
36	C90700	37/M	-	-	-		-	-	-
37	C83650	33/M	-	-	-	1.2	-	-	-
38	C80190	40/M	NIL	NIL	NIL		-	-	-
39	A36870	35/F	NIL	NIL	NIL		-	-	-
40	C82416	51/F	NIL	-	NIL		-	-	-

LABORATORY PARAMETERS - CHART

AFTER TMT

S.No	OP/IP No	A/S	HB Gm%	T.RBC milli/cu.mm	ESR mm/hr	T.WBC Cells/ cu.mm	DIFFRENTIAL COUNT					SUGAR		LIPID PROFILE				
							P %	L %	M %	E %	B %	F Mg/dl	PP Mg/dl	Serum Cholesterol Mg/dl	HDL Mg/dl	LDL Mg/dl	VLDL Mg/dl	TGL Mg/dl
1	C84939	42/M	15.3	5.9	4	7900	45	44	-	11	-	100	120	203	35	126	25	126
2	C79224	45/F	13.7	4.6	80	8400	52	44	-	4	-	92	100	218	37	150	38	190
3	C78976	44/M	15.4	5.3	6	9100	56	36	0.2	6	-		100	122	26	91	13	68
4	C38379	36/F	10.7	4.2	14	7000	61	34	-	5	-	91	101	153	31	106	16	7
5	C78090	40/M	14	4.2	4	6700	72	25	-	3	-	81	96	210	32	155	14	83
6	C74874	56/M	13.8	4.4	24	8700	54	40	-	6	-	79	131	217	42	72	113	567
7	C76462	49/F	12.1	4.3	8	7500	62	34	-	4	-	90	112	210	41	156	15	72
8	C83792	60/M	14.1	4.2	8	8500	42	30	1	15		72	110	165	30	90	32	170
9	C93208/4115	40/F	14	4.9	4	5800	67	30	-	3	-	90	110	110	32	67	24	122
10	C94303/4149	45/F	11.5	4.7	18	15300	75	21	-	4	-	162	192	227	45	121	69	346
11	C90904/4113	34/F	12.4	4.7	24	7700	55	40	-	5	-	81	100	110	32	67	24	122
12	C92197/4112	34/F	12	4.7	12	7800	65	32	-	3	-	90	110	153	36	72	28	173
13	C90799/4114	40/F	13.4	4.4	12	9000	65	30	-	5	-		101	143	39	82	41	206
14	C83614/4119	46/F	13.4	4.6	28	9900	64	30	-	6	-	97	106	175	35	89	37	187
15	C94000/54044	60/M	14.1	4.2	8	8500	42	30	1	15		72	110	165	30	90	32	170
16	C63281	32/M	16.3	5.7	4	8300	54	42	-	4	-	104	122	161	34	112	22	114
17	C85918/4049	50/F	12.6	4.2	54	8300	62	35	-	3	-	101	121	164	32	116	29	146
18	B25276	50/F	12	3.9	18	7900	63	31	-	6	-		122	200	40	146	18	92
19	C75719	57/M	14.4	4.7	10	7700	57	40	-	3	-		96	186	30	122	3	179
20	C58864	49/F	11.6	3.7	14	4700	55	37	1	7	-	98	104	188	37	129	16	83
21	C4046	58/F	11	4.2	48	5400	65	30	-	5	-	109	121	271	50	127	51	256
22	C82201	58/F	13.4	4.6	28	9900	64	30	-	6	-	97	106	175	35	89	37	187
23	C87544	56/F	14.1	4.2	20	8500	65	30		5		100	155	150	34	104	30	198
24	C86291/4003	45/F	11.6	3.7	14	4700	55	37	1	7	-	98	104	188	37	129	16	83
25	A27878	55/F	13	4.2	44	7800	65	30	-	5	-	100	115	200	36	101	35	177
26	C86287/4004	53/F	12.2	4.1	24	9800	52	34		6		118	125	180	32	115	20	101
27	C76913	27/M	16.3	5.7	4	8300	54	42	-	4	-	104	122	161	34	112	22	114
28	C93202	50/M	14.4	4.5	4	10900	55	32		4		100	118	110	40	121	30	125
29	C92105	50/M	12.3	4.8	4	5900	59	29	-	12	-	69	92	204	42	136	35	175
30	C77772	57/F	14.1	4.2	20	8500	65	30		5		100	155	150	34	104	30	198
31	B29219	40/F	11.4	3.8	22	8200	60	37	-	3	-	113	127	163	33	80	17	89

32	C59987	35/M	16.3	5.7	4	8300	54	42	-	4	-	104	122	161	34	112	22	114
33	C81598	47/M	12.4	4.2	11	4900	61	31		2		96	114	216	40	135	38	206
34	C89682	47/F	12.6	4.1	8	10400	62	30		2		98	120	220	42	140	35	201
35	C79108	34/F	12	4.06	7	4600	44	51	-	5	-	75	90	161	44	89	28	140
36	C90700	37/m	17.6	5.4	3	9500	66	32				102	115	160	38	180	29	152
37	C83650	33/M	14.4	4.2	15	6200	60	28		1		97	118	215	40	138	38	218
38	C80190	40/M	15.3	5.9	4	7900	45	44	-	11	-	100	120	203	35	126	25	126
39	A36870	35/F	11.4	3.8	22	8200	60	37	-	3	-	113	127	163	33	80	17	89
40	C82416	51/F	12.6	4.1	8	10400	62	30		2		98	120	220	42	140	35	201

S.No	OP/IP No	A/S	RFT			LFT										
			Blood Urea Mg/dl	Serum Creatinine Mg/dl	Serum Uric Acid Mg/dl	Total Bilirubin Mg/dl	Direct Bilirubin Mg/dl	Indirect Bilirubin Mg/dl	Serum Total Protein Mg/dl	Serum Albumin Mg/dl	Serum Globulin Mg/dl	Serum Calcium Mg/dl	Serum Phosphorous Mg/dl	SGOT IU/L	SGPT IU/L	Alkaline Phosphatase IU/L
1	C84939	42/M	20	0.6	7.2	0.6	0.2	0.4	5	0.3	2	9.6	2.5	15	26	147
2	C79224	45/F	18	0.6	5.1	0.5	0.2	0.3	7	5	2	10.6	3.2	13	14	135
3	C78976	44/M	-	-	-	0.5	0.2	0.3	7.9	4.8	3.1	11.3	3.1	29	28	181
4	C38379	36/F	14	0.4	4.7	0.6	0.2	0.4	6.7	4.7	2	11.2	3	36	38	159
5	C78090	40/M	19	0.4	3.7	0.4	0.2	0.2	8	6	2	10.1	2.5	16	14	172
6	C74874	56/M	15	0.5	5	0.7	0.3	0.4	5.7	3.8	1.9	10.7	2.5	12	14	215
7	C76462	49/F	24	0.9	4.6	0.4	0.2	0.2	7	4	3	10.5	3.4	18	20	17
8	C83792	60/M	10	0.4	4.2	0.4	0.2	0.2	6	3	3	9.5	3.3	20	22	182
9	C93208/4115	40/F	32	0.8	3	0.6	0.2	0.4	6.7	3.9	2.8	10.2	2.8	15	17	162
10	C94303/4149	45/F	14	0.5	3.5	0.5	0.2	0.3	6.4	4.2	2.2	9.9	2.7	12	14	166
11	C90904/4113	34/F	32	0.8	3	0.6	0.2	0.4	6.7	3.9	2.8	10.2	2.8	15	17	162
12	C92197/4112	34/F	32	0.6	3	0.4	0.2	0.4	6.8	3.7	2.9	10.8	3	12	18	166
13	C90799/4114	40/F	17	0.5	4.1	0.5	0.2	0.3	6.8	4.8	2	10.4	3	15	17	140
14	C83614/4119	46/F	14	0.4	3.1	0.7	0.3	0.4	6.7	3.8	2.9	10.6	2.9	15	17	182
15	C94000/54044	60/M	10	0.4	4.2	0.4	0.2	0.2	6	3	3	9.5	3.3	20	22	182
16	C63281	32/M	17	0.5	7.4	0.7	0.3	0.4	6.7	4.7	2	10.6	3	24	25	17
17	C85918/4049	50/F	14	0.4	3.6	0.5	0.2	0.3	6.7	4	2.7	11	3.2	18	20	204
18	B25276	50/F	19	0.5	-	0.4	0.2	0.2	7	5	2	10.6	3.1	15	16	152
19	C75719	57/M	-	-	-	0.7	0.2	0.5	6.6	4.2	2.4	11	3.6	27	30	196
20	C58864	49/F	14	0.4	2.9	0.7	0.2	0.5	6.8	3.2	3.6	10.8	2.6	27	30	164
21	C4046	58/F	14	0.5	3.7	0.5	0.2	0.3	6.4	3.8	2.6	10.5	2.9	10	12	160
22	C82201	58/F	14	0.4	3.1	0.7	0.3	0.4	6.7	3.8	2.9	10.6	2.9	15	17	182
23	C87544	56/F	35	2	5.1	0.6	0.4	0.2	6	2	1	9.5	4.2	12	15	190
24	C86291/4003	45/F	14	0.4	2.9	0.7	0.2	0.5	6.8	3.2	3.6	10.8	2.6	27	30	164
25	A27878	55/F	17	0.6	3	0.6	0.2	0.4	6	3.7	2.3	10	2.9	29	23	182
26	C86287/4004	53/F	26	0.5	6.4	0.5	0.2	0.3	6	4	2	9.5		21	25	
27	C76913	27/M	17	0.5	7.4	0.7	0.3	0.4	6.7	4.7	2	10.6	3	24	25	17
28	C93202	50/M	25		6	0.4	0.1	0.3	0.7	0.4	0.3	8	4	21	23	190
29	C92105	50/M	16	0.5	5.9	0.6	0.2	0.4	6.5	4.1	2.4	10.6	3	15	16	14
30	C77772	57/F	35	2	5.1	0.6	0.4	0.2	6	2	1	9.5	4.2	12	15	190
31	B29219	40/F	14	0.4	3.7	0.8	0.3	0.5	7.5	4.6	2.9	11.2	3.1	19	21	173
32	C59987	35/M	17	0.5	7.4	0.7	0.3	0.4	6.7	4.7	2	10.6	3	24	25	17
33	C81598	47/M	34	2	5.4	6	0.3	0.3	7	4	1	7.2	4.4	13	11	175

34	C89682	47/F	30	2	5.2	0.6	0.4	0.2	7	6	1	9.4	4.6	12	11	195
35	C79108	34/F	18	0.8		0.6	0.2	0.4	6.8	4.3	2.5			29	32	40
36	C90700	37/m	10	0.6	7.2	0.8	0.6	0.2	6.4	4.2	2.2	10.1	3	30	38	250
37	C83650	33/M	28	3	5.1	0.5	0.1	0.4	5	3	2	9.2	2.2	12	11	201
38	C80190	40/M	20	0.6	7.2	0.6	0.2	0.4	5	0.3	2	9.6	2.5	15	26	147
39	A36870	35/F	14	0.4	3.7	0.8	0.3	0.5	7.5	4.6	2.9	11.2	3.1	19	21	173
40	C82416	51/F	30	2	5.2	0.6	0.4	0.2	7	6	1	9.4	4.6	12	11	195

S.No	OP/IP No	A/S	URINE				MOTION		
			Albumin	Fasting Sugar	PP Sugar	Deposits	Ova	Cyst	Occult Blood
1	C84939	42/M	NIL	NIL	NIL		-	-	-
2	C79224	45/F	NIL	NIL	NIL		-	-	
3	C78976	44/M	NIL	NIL	NIL		-	-	-
4	C38379	36/F	NIL	NIL	NIL		-	-	-
5	C78090	40/M	NIL	NIL	NIL		-	-	
6	C74874	56/M	NIL	NIL	NIL		-	-	ABSENT
7	C76462	49/F	NIL	NIL	NIL		-	-	-
8	C83792	60/M							
9	C93208/4115	40/F	NIL	NIL	NIL		-	-	-
10	C94303/4149	45/F	NIL	NIL	NIL		-	-	-
11	C90904/4113	34/F	NIL	NIL	NIL		-	-	-
12	C92197/4112	34/F	NIL	NIL	NIL		-	-	-
13	C90799/4114	40/F	NIL	NIL	NIL		-	-	-
14	C83614/4119	46/F	NIL	NIL	NIL		-	-	-
15	C94000/54044	60/M							
16	C63281	32/M	NIL	-	NIL		-	-	-
17	C85918/4049	50/F	NIL	NIL	NIL		-	-	-
18	B25276	50/F	NIL	NIL	NIL		-	-	-
19	C75719	57/M	NIL	NIL	NIL		-	-	-
20	C58864	49/F	NIL	NIL	NIL		NIL	NEGATIVE	ABSENT
21	C4046	58/F	NIL	NIL	NIL		-	-	-
22	C82201	58/F	NIL	NIL	NIL		-	-	-
23	C87544	56/F							
24	C86291/4003	45/F	NIL	NIL	NIL		NIL	NEGATIVE	ABSENT
25	A27878	55/F	NIL	NIL	NIL		-	-	-
26	C86287/4004	53/F							
27	C76913	27/M	NIL	-	NIL		-	-	-
28	C93202	50/M							
29	C92105	50/M	NIL	NIL	NIL		-	-	-
30	C77772	57/F							
31	B29219	40/F	NIL	NIL	NIL		-	-	-
32	C59987	35/M	NIL	-	NIL		-	-	-
33	C81598	47/M							
34	C89682	47/F							
35	C79108	34/F	NIL	NIL	NIL		-	-	-
36	C90700	37/m							
37	C83650	33/M							
38	C80190	40/M	NIL	NIL	NIL		-	-	-
39	A36870	35/F	NIL	NIL	NIL		-	-	-
40	C82416	51/F							

NATIONAL INSTITUTE OF SIDDHA
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Website : www.nischennai.org

Name: Dr. V. VITHYAPATHI, REG. No: 32101208
Title: Preclinical and clinical study on "KUMBAVATHAM" (Peri Arthritis Shoulder) and the drug of choice is "PARANGIPATTAI RASAYANAM" (Internal) "LASUNATHY THILAM" (External)
No. NIS/IEC/2011/3/08 - 24/12/2011

DECSION

Opinion of the Institutional Ethics Committee – Please Check one
✓ Approval _____ Modifications required prior to approval (Please specify one space below) _____ Disapproval K. Manickavasakam (Dr. K. MANICKAVASAKAM) Member Secretary Date of review: _____ Signed: _____ (Please print name) Dr.V.SUBRAMANIAN Chair person (Please delee as appropriate, Chairperson, Secretary)
Modifications needed Modification given to candidate
The research proponent is hereby informed that the Institutional Ethics Committee will require the following: 1. All adverse drug reactions (ADRs) that are both serious and unexpected to be reported promptly to the IEC within 7 working days 2. The progress report to be submitted to the IEC atleast annually 3. Upon completion of the study, a final study status report needs to submitted to the IEC

IAEC PROTOCOL NO: 1248/ac/09/CPCSEA/4-08/2011

20/12/2011

CERTIFICATE

This is certify that the project title... Preclinical and clinical study on kerohavatham (Pesi asthritis Shoulder) and the drug of choice is Palangipattai rasayanam. .....

has been approved by the IAEC.

Prof. Dr. K. Manickavasakam
Name of Chairman/Member Secretary IAEC:

Dr. B. Jayachandran Dare
Name of CPCSEA nominee:

Signature with date

Chairman/Member Secretary of IAEC:

CPCSEA nominee:

(Kindly make sure that minutes of the meeting duly signed by all the participants are maintained by Office)

NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 600047

CERTIFICATE OF BOTANICAL AUTHENTICITY

Certified that the following plant drugs used in the Siddha formulation **Parangipattai Rasayanam** (Internal) and **Lasunathy Thailam** (External) for the treatment of **Kumba Vatham** (Peri Arthritis Shoulder) taken up for Post Graduation Dissertation studies by **Dr.V.Vithyapathi**, M.D.(S), II year Department of Maruthuvam, 2011-12, are identified and authenticated through Visual inspection / Experience, Education & Training/ Organoleptic characters/ Morphology / Micromorphology / Taxonomical/ Microscopical methods.

Smilax china Linn. (Liliaceae), Root
Plumbago zeylanica Linn. (Plumbaginaceae), Root
Azima tetracantha Lam. (Salvadoraceae), Root
Withania somnifera Dunal (Solanaceae), Root
Zingiber officinale Rosc. (Zingiberaceae), Rhizome
Curculigo orchioides Gaertn. (Amaryllidaceae), Rhizome
Piper nigrum Linn. (Piperaceae), Fruit
Piper nigrum Linn. (Piperaceae), Root
Piper longum Linn. (Piperaceae), Fruit
Piper longum Linn. (Piperaceae), Root
Piper cubeba Linn. f. (Piperaceae), Fruit
Taxus baccata Linn. (Taxaceae), Leaf
Cinnamomum tamala Nees & Eberm. (Lauraceae), Leaf
Carum copticum Benth & Hook. f. (Apiacea), Fruit
Hyoscyamus niger Linn. (Solanaceae), Seed

Nigella sativa Linn. (Ranunculaceae), Seed

Alpinia officinarum Hance (Zingiberaceae), Rhizome

Alpinia galanga (Linn.) Willd. (Zingiberaceae), Rhizome

Terminalia chebula Retz. (Combretaceae), Fruit

Terminalia belerica Roxb. (Combretaceae), Fruit

Phyllanthus emblica Linn. (Euphorbiaceae), Fruit

Costus speciosus Smith (Costaceae), Rhizome

Papaver somniferum Linn. (Papaveraceae), Seed

Coriandrum sativum Linn. (Apiaceae), Fruit

Nardostachys grandiflora DC (Valerianaceae), Root

Syzygium aromaticum(Linn.) Merr. & L.M. Perry (Myrtaceae), dried flower bud

Myristica fragrans Houtt. (Myristicaceae), Seed and Aril

Cinnamomum verum Presl (Lauraceae), Bark

Zingiber officinale Rosc. (Zingiberaceae), Rhizome

Allium sativum Linn. (Alliaceae), Bulb

Embelia ribes Burm. f. (Myrsinaceae), Fruit

Acorus calamus Linn. (Araceae), Rhizome

Curcuma longa Linn. (Zingiberaceae), Rhizome

Coscinium fenestratum Colebr. (Menispermaceae), Stem

Moringa oleifera Lam. (Moringaceae), Root

Vitex negundo Linn. (Verbenaceae), Root

Solanum surattense Burm. f. (Solanaceae), Root

Hygrophila auriculata Heine (Acanthaceae), Root

Calotropis gigantea Linn. (Asclepiadaceae), Root

Holoptelea integrifolia Planch. (Ulmaceae), Root

Certificate No: NIS/MB/42/2012

Date: 24-8-12

Authorized Signatory

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This Certificate is awarded to ~~Mr/Ms~~/Dr.....V. VITHYAPATHI.....

for participating as a ~~Resource Person~~ / Delegate in the VII Workshop

on **"Research Methodology & Biostatistics"**

for AYUSH Post-Graduates & Researchers

organized by the Department of Siddha

The Tamil Nadu Dr. M.G.R. Medical University

from 6th Feb. 2012 to 10th Feb. 2012.

DR. MAYILVAHANAN NATARAJAN
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